

MONTHLY **LABOR REVIEW**

UNITED STATES DEPARTMENT OF LABOR • ^{U.S.} BUREAU OF LABOR STATISTICS



Electric Welding in Hudson River Tunnel

Photo by courtesy of P. W. A.

In this issue . . . Unit Labor Cost in Manufacturing Industries •
Federal Housing of War Industry Workers •
JULY 1940 Pay of Enlisted Men in Army and Navy • Hours
Vol. 51 • No. 1 of Work of Municipal Firemen

UNITED STATES DEPARTMENT OF LABOR

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Published by the Bureau of Labor Statistics, under authority of Public Resolution No. 57, approved May 11, 1922 (42 Stat. 541), as amended by section 307, Public Act 212, 72d Congress, approved June 30, 1932. For sale by the Superintendent of Documents, Washington, D. C. Price, 30 cents a copy. Subscription price per year in the United States, Canada, and Mexico, \$3.50; other countries, \$4.75. This publication approved by the Director, Bureau of the Budget.



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MONTHLY LABOR REVIEW

UNITED STATES DEPARTMENT OF LABOR • BUREAU OF LABOR STATISTICS

***** + HUGH S. HANNA, EDITOR + *****

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MONTHLY LABOR REVIEW

FOR JULY 1940

PAY OF ENLISTED PERSONNEL IN THE UNITED STATES ARMY AND NAVY

ENLISTED men joining the United States Army for the first time as privates receive base pay of \$21 monthly; for Navy recruits entering as apprentice seamen, the base pay on entrance is also \$21. Men who attain the highest grade in both services receive a minimum of \$126 a month, which is increased on a fixed schedule, according to length of service, until a maximum base pay plus longevity credit of \$157.50 is reached. In all cases, the base pay is supplemented by a number of allowances, including food and lodging and medical and dental attention. Extra payment is made for hazardous and highly skilled work, special assignments, and medals received for distinguished service. Retirement pay is provided up to a maximum of \$133.88 per month, allowances included.

Base Pay Plus Longevity Credit

The monthly rates of pay for enlisted Army and Navy personnel are shown in tables 1 and 2, by grade and class, according to length of service.

TABLE 1.—Monthly Rates of Pay of Enlisted Men of the Army

Group	Service of—					
	Less than 4 years	Over 4 years	Over 8 years	Over 12 years	Over 16 years	Over 20 years
First grade (master sergeant)	\$126	\$132.30	\$138.60	\$144.90	\$151.20	\$157.50
Second grade (first sergeant and technical sergeant)	84	88.20	92.40	96.60	100.80	105.00
Third grade (staff sergeant)	72	75.60	79.20	82.80	86.40	90.00
Fourth grade (sergeant)	54	56.70	59.40	62.10	64.80	67.50
Fifth grade (corporal)	42	44.10	46.20	48.30	50.40	52.50
Sixth grade (private, 1st class), basic rate	30	31.50	33.00	34.50	36.00	37.50
Specialist rate:						
First class	60	61.50	63.00	64.50	66.00	67.50
Second class	55	56.50	58.00	59.50	61.00	62.50
Third class	50	51.50	53.00	54.50	56.00	57.50
Fourth class	45	46.50	48.00	49.50	51.00	52.50
Fifth class	36	37.50	39.00	40.50	42.00	43.50
Sixth class	33	34.50	36.00	37.50	39.00	40.50
Seventh grade (private), basic rate	21	22.05	23.10	24.15	25.20	26.25
Specialist rate:						
First class	51	52.05	53.10	54.15	55.20	56.25
Second class	46	47.05	48.10	49.15	50.20	51.25
Third class	41	42.05	43.10	44.15	45.20	46.25
Fourth class	36	37.05	38.10	39.15	40.20	41.25
Fifth class	27	28.05	29.10	30.15	31.20	32.25
Sixth class	24	25.05	26.10	27.15	28.20	29.25

TABLE 2.—Monthly Rates of Pay of Enlisted Men in the Navy

Pay grade	Base pay	Base pay plus 10 percent	Base pay plus 15 percent	Base pay plus 20 percent	Base pay plus 25 percent
First grade (chief petty officer).....	\$126	\$138.60	\$144.90	\$151.20	\$157.50
First grade (A) (chief petty officer, acting).....	99	108.90	113.85	118.80	123.75
Second grade (petty officer, 1st class).....	84	92.40	96.60	100.80	105.00
Third grade, (petty officer, 2d class).....	72	79.20	82.80	86.40	90.00
Fourth grade (petty officer, 3d class).....	60	66.00	69.00	72.00	75.00
Fifth grade (nonrated, 1st class).....	54	59.40	62.10	64.80	67.50
Sixth grade (nonrated, 2d class).....	36	39.60	41.40	43.20	45.00
Seventh grade (nonrated, 3d class).....	21	23.10	24.15	25.20	26.25

Promotion Including Reenlistment

As noted above, a recruit who enters the Army receives a base pay of \$21 a month as a private. There is no automatic promotion in grade. A Navy recruit is designated an apprentice seaman upon enlistment and is also paid a basic wage of \$21 a month. He is sent to a naval training station for a 12-weeks' course of training. Following this course, he is transferred to general service at sea unless selected for special service school instruction. After 4 months' total service, including recruit training, an apprentice seaman is promoted to seaman second class, and seamen second class may be rated firemen third class as vacancies occur, if selected for engineering duty. The monthly pay of these ratings is \$36. Ex-members of the armed services who reenlist are promoted in 1 month in place of 4 months, provided their previous service and training warrant such advancement.

The length-of-service pay granted in addition to the base pay is shown in tables 1 and 2. In the Army, enlisted men receive the maximum pay addition for length of service—that is, 25 percent over the appropriate base rate—at the end of 20 years' service. This maximum is reached in the Navy after 16 years. The increments in the Army consist of additions of 5 percent after each 4 years of service up to a total of 5 additions. In the Navy, the increase is 10 percent after the first 4 years and 5 percent thereafter for 3 successive 4-year periods.

In the absence of an automatic promotion system in the Army, enlisted men in the two lower grades are permitted to qualify as specialists with the corresponding increases in pay indicated in table 1. Outside of the length-of-service increase in pay, promotion depends entirely upon the individual's personal qualifications and the number of vacancies resulting from retirement, death, and related factors.

A man who reenlists in either the Army or Navy within 3 months of the day of a discharge under honorable conditions, receives a reenlistment allowance of \$50 for each year of service in the last expiring enlistment (maximum \$150 in the Army and \$300 in the Navy), provided he is rated in the first three grades of the Army, or is a chief petty officer,

petty officer first class or second class in the Navy. The allowance for lower ratings in the fourth to seventh pay grades in both services, is \$25 for each year of service (maximum \$75 in the Army and \$150 in the Navy).

Allowances

A man enlisting in the Army is credited with a clothing allowance and all clothing drawn is charged against this sum. Upon first enlistment, a Navy recruit is furnished with an outfit of clothing free of charge. The value of this outfit is at present \$113.

Enlisted men in the Army are entitled to an allowance for quarters and rations not to exceed \$4 per day, if food and lodging are not supplied. The regulations in effect at present provide for an allowance of \$1.20 a day for subsistence when mess facilities are not furnished and \$1 a day if such facilities are furnished. The allowance for quarters is 75 cents a day. Higher rates are paid on special duty and while a man is in a travel status.

For Navy personnel, the allowance in place of food is 50 cents a day but is subject to change. Enlisted men on certain classes of duty ashore may receive a subsistence and quarters allowance of from \$1.95 to \$3.75 a day in place of the ration and quarters not supplied in kind.

In both services, men who have been awarded medals of honor for a distinguished act or service, such as the Distinguished Service Medal, are entitled to a permanent monthly addition to wages of \$2 for each such medal awarded. The same allowance is made for each "bar" added to the medal, a bar being awarded instead of a medal for each succeeding deed or service.

In the Army, expert gunners, expert riflemen, expert bombers, expert aerial gunners, and pistol experts (dismounted) may be paid \$5 extra each month, under certain conditions. The qualification terms are subject to change. A 50-percent addition to base pay is made to enlisted Army men when they are engaged in actual flying duty.

Temporary monthly additions to pay are provided for as follows in the Navy: \$5 when the man is detailed to mess duty; \$15 to \$30 for duty as mail clerk, \$10 for duty as assistant mail clerk (except at the Naval Station, Guantanamo Bay, Cuba, where the allowance is \$15); 50 percent increase over the regular pay when individual flight orders have been issued and the required number of aerial flights have been made; \$10 to \$30 when the enlisted man is designated as a diver, plus \$5 an hour for each hour or fraction thereof if he is employed in diving in depths over 90 feet; \$5 to \$30, depending on detail, rating, and qualification, for duty on board submarines; \$2 when detailed as

listeners on submarines, as qualified sound operators or repairmen; and \$1 to \$5 for qualification in the use of arms.

A man who is discharged from the Army at a point other than the place of enlistment is given travel pay at the rate of 5 cents a mile from the place of discharge to the place of enlistment, except that for any sea travel involved, transportation in kind and subsistence en route are furnished.

At expiration of enlistment and discharge from the Navy, a man is entitled to travel allowance which is paid to him in cash at the rate of 5 cents a mile, for all land travel, and to transportation in kind (including subsistence) for sea travel, from the place of discharge to the place of acceptance for enlistment.

Retired Pay

After 30 years of service, an enlisted man may retire on three-fourths pay of his rating, including all permanent additions, plus \$15.75 a month allowance in lieu of rations, quarters, and fuel and light. The maximum retirement pay is \$133.88 a month in both services. Reduced pensions are authorized for short-service men. All pensioners, regardless of years of service, receive \$15.75 monthly as commutation of quarters, fuel, light, and rations.

FEDERAL HOUSING OF WAR INDUSTRY WORKERS, 1917-18¹

BECAUSE a special housing problem is likely to arise in centers where employment is expanded under the armament program, the Government's place in meeting possible housing shortages is already being discussed. Even though conditions have altered markedly since 1917-18, it appears worth while to review the experience with public housing during the last war.

At that time a Federal housing program was adopted to provide adequate shelter for civilian employees engaged in wartime industries in localities where the plant personnel was too large to be accommodated in existing dwellings. Labor could not be held at these plants unless adequately sheltered. Also the quality of labor was dependent in large part upon the existence of adequate housing of suitable types.

Unskilled labor could frequently, but not always, be drawn from the cities located nearest the plant. Skilled labor was often secured only with great difficulty from distant points.

The first step in the housing program undertaken by the Government in 1918 was to enact legislation authorizing establishment of housing agencies. The agencies set up under these laws pioneered in a field in which the Government had not previously participated. Conditions are now quite different. Should it become desirable for the Government to participate in the erection of low-cost houses, other than those provided for under the slum-clearance program, presumably the 450 existing local housing agencies, created for the purpose of undertaking low-rent housing and slum-clearance projects and which are going organizations, might be utilized, since they are equipped to proceed with a minimum of delay and on the basis of considerable experience.

Two kinds of housing shortage were necessarily dealt with in 1918: (1) In cities where huge contracts for war materials were placed and the labor force increased beyond the available housing facilities; and (2) in outlying communities where plants were established and where no housing whatever was available. As the present armament program is extended the same problems will undoubtedly arise. In fact, shortages already exist in many places owing to the slackness of residential building in the recent depression years. The expanding low-rent housing and slum-clearance program of the USHA will presumably be an important factor in easing the housing shortage. However, if new plants are to be scattered in areas where no housing now exists, under the plan so widely favored of erecting such plants

¹ Acknowledgment is made for assistance given by J. J. Leonard, formerly of the U. S. Housing Corporation and now connected with the U. S. Housing Authority.

in less vulnerable areas, then new housing must be planned for as well. This would mean adoption of a supplementary housing program, either by private industry, or the Federal Government, or both.

A factor that sharply differentiates the present from 1918 and that will tend to reduce the housing requirements in the more remote localities is the greatly increased use of automobile transportation by workers going to and from their jobs. With privately owned vehicles at their disposal, employees are able to work at considerable distances from their homes. Then, too, there is the possibility of following the plan successfully applied in 1918 of aiding transportation companies in extending their facilities on routes used by workers, in order that they will not be obliged to live so close to their work.

The 1918 program was launched a year after the entrance of the United States into the war and the emergency ended before many dwellings were completed. At best, land purchase and house designing and construction consume considerable time. Without advance planning and under war conditions delays were inevitable. All costs were, of course, high at that time, and the prorated costs on finished dwelling units were made higher, owing to charges against the finished buildings for work that was scrapped. There is no doubt that, owing to the improvement made in low-cost housing, both the Government and private industry are much better equipped than in 1918 to proceed with a broadened housing program in 1940.

Enabling Legislation in 1918

The committee on housing of the Council of National Defense was appointed in 1917. On the basis of testimony and investigation, the committee concluded that in many communities where work was being done on ships, guns, ammunition, and other war materials, private industry had already made provision for additional housing or plans were under way. Without exaggerating the need for public action, however, the committee concluded that the Government should grant quick financial aid to such industries or communities as could clearly demonstrate their right to relief. Consideration was also given to the housing problem by the United States Shipping Board. The chairman stated that the lack of housing facilities was critical and urged that measures should be taken to relieve the situation.

Acting on the recommendations of official and unofficial bodies, Congress enacted a law on March 1, 1918, authorizing the United States Shipping Board Emergency Fleet Corporation "to purchase, lease, requisition, or otherwise acquire, and to sell or otherwise dispose of improved or unimproved land, houses, buildings," under which terms housing was provided for shipyard labor. In order to make dwellings available for war workers outside shipyards this legislation was followed on May 16, 1918, by another law authorizing the Presi-

dent "to provide housing for war needs." The administration of this work was placed under the direction of the Secretary of Labor. The powers granted to aid in supplying housing were in both cases for the duration of the war. In urging adoption of the bill giving the President the power to provide dwellings, the House Committee on Public Buildings and Grounds stated: "Necessarily legislation of this character must lodge very broad discretion with those who are to administer it. It is a temporary expedient, and entirely new to our Government, and * * * can only be justified by the conditions now existing, but those conditions seem to us to imperatively demand its enactment."

The work of the two wartime housing bodies—the Emergency Fleet Corporation of the Shipping Board, dealing with the housing of shipyard labor, and the United States Housing Corporation of the Department of Labor, for war workers—is described briefly below.

Shipping Board Operations

The powers of the Emergency Fleet Corporation of the Shipping Board in providing dwelling accommodations were extremely broad. They included authority to secure lands and houses by requisition, purchase, lease, condemnation, or otherwise; to construct buildings and other improvements; and to make loans to persons, firms, or corporations for a period not to exceed 10 years. In some cases the Corporation made use of its power to requisition houses in order to prevent profiteering and insure continued occupancy by ship workers. Land was requisitioned only when the price asked was excessive or delay in securing good title would otherwise have occurred.

Acting as mortgagee or banker lending Government funds, the Corporation reserved the right to exercise control over the rentals, sales, and management of projects, for at least the period of the war; and also approved the selection of architects, engineers, contractors, etc., and determined the amount of their compensation.

PROCEDURE

In all, appropriations totaled \$75,000,000 for the housing of shipyard workers. To this was added a \$20,000,000 appropriation for transportation facilities. In entering contracts for the projects, three parties were involved; that is, the Emergency Fleet Corporation, the shipbuilder, and the realty company, which acted as the subsidiary for the shipbuilder to hold the land, advance loans, and operate the housing facilities. The shipbuilder guaranteed the obligations and the winding up of each project, including the maximum 30 percent write-off granted in recognition of the high construction cost. Thus the policy followed was to avoid placing the Government in the construction field directly.

Land was secured without cost to the Government, except on two projects. This was accomplished by purchase of land either with funds of the shipbuilder or from funds contributed by citizens. Realty companies were limited to the payment of 5 percent dividends on their stock until mortgages were paid and to 6 percent thereafter.

Thorough investigation was made as to the need for housing, the workers to be housed, and such factors as transportation facilities and utilities before any project was inaugurated. Where necessary, 5 percent loans were granted to utility companies for necessary installations and for transportation improvements; and adjustments of train schedules were arranged to accommodate shipyard workers. This made it possible for employees to live at a distance from the yards, thereby decreasing the housing problem at the site.

The importance that was attached to the provision of adequate transportation as an adjunct to the housing program is evidenced by the size of the appropriation Congress made for this purpose. Where it was necessary to construct new facilities the procedure followed was for the Corporation to make contracts with the transportation companies to lend the capital needed. The agreement usually provided for all work to be done by the company, payment of 5 percent interest on the full cost of the work for the duration of the war, and payment for the value of the items furnished after the termination of the war. In practically all cases, the valuation was limited to a minimum of 75 percent of the amount advanced. Additional transportation facilities were needed by yards having contracts for over 70 percent of the dead-weight tonnage under construction.

VOLUME AND CHARACTER OF HOUSING

By October 1, 1918, funds had been allocated to 25 shipyards and 1 turbine plant and a substantial number of employees were housed in the new projects, most of which were on the Atlantic Coast, where the need was greatest. After the war ended, the construction program was gradually completed and, according to the report of the Shipping Board for the fiscal year ended June 30, 1920, expenditures for housing and transportation had ceased. This same report shows the volume of construction and persons accommodated, as follows:

Type of building:	Number	Number of men housed
Individual houses.....	8,644	18,862
Boarding houses.....	6	239
Apartments.....	849	1,359
Dormitories.....	94	6,174
Hotels.....	5	1,430
Total.....		28,064

At the time there was criticism on the grounds that the dwellings were too expensive for the purpose and that those responsible for the work were more concerned with demonstrating the possibilities of planned communities than with securing the maximum amount of shelter in the shortest possible time. The Emergency Fleet Corporation pursued the policy of making loans in sufficient amounts to permit construction of sound structures, thus conserving the investment after the war ended. Good house design and community planning were provided, even though this entailed extra cost, in order that the houses would find a ready market for rental or sale after the emergency ceased to exist.

Under the terms of legislation adopted in 1920 the Shipping Board was directed to dispose of all the properties acquired at as early a date as practicable, consistent with good business and the national interest. From that time the Board's concern with housing was to recover the maximum amount from the investment, the balance representing the war cost for housing.

Department of Labor Operations

Upon the advice of the Council of National Defense, public housing work was delegated to the Department of Labor, insofar as it affected industrial workers (and their families) engaged in arsenals and navy yards of the United States and in industries connected with and essential to the National defense, and employees in the District of Columbia.

PROCEDURE

In contrast with the building operations of the Emergency Fleet Corporation under the Shipping Board, which were carried on by private agencies with the Corporation acting as mortgagee, the United States Housing Corporation of the Department of Labor bought land, let contracts, and had its own administrative officers to manage completed housing projects. Building materials were purchased through the Construction Division of the Army, which fixed prices for the materials entering into construction. Each contract was let to the lowest bidder.

As already noted, the enabling legislation for housing munition workers was adopted in May 1918. An initial appropriation of \$60,000,000 (\$10,000,000 to be used in the District of Columbia) was authorized shortly afterwards and in July an additional \$40,000,000 was placed at the disposal of the agency. The initial planning for the program was done by the Bureau of Industrial Housing and Transportation in the Department of Labor, but the United States Housing Corporation was promptly incorporated, after funds for housing were appropriated, to administer the work. In establishing

this corporate body under the laws of the State of New York, the object was to give the Government agency the same status as other corporations owning property in a particular locality. All of the stock was held by the Secretary of Labor except two shares which were allocated, respectively, to the president and treasurer of the Corporation.

While the principal task of the Corporation was to initiate construction and operation of houses, apartments, and dormitories where most needed, new building was only undertaken where it was impossible to obtain sufficient housing facilities by other means. Every effort was made (1) to find dwellings in or near the particular communities affected by shortages; (2) to obtain improved transportation between places where houses were available and the war industry plants; (3) to encourage and aid private building; and (4) to assist in distributing labor and placing war contracts in such a way as to avoid congestion.

The Corporation's efforts to find dwellings consisted of setting up local renting bureaus in different communities, usually with the help of local agencies; making counts of vacant houses and rooms; taking into account rent profiteering, where possible; and requisitioning dwellings, where necessary. In cases of profiteering, hearings were held and settlements usually secured; if no settlement was reached, then the greatest possible publicity was given to the facts.

Like the Emergency Fleet Corporation, the Housing Corporation often succeeded in solving housing problems by securing improved transportation. Local companies were assisted by loans or advances. In one locality, for example, the Corporation chartered a ferryboat system to get employees to their jobs, and in another special trains were placed in operation at reduced rates, the Corporation making up the deficit. Adding the loans and subsidies for the payment of reduced fares applied by the Government, it was estimated that the cost for each workman per year amounted to about \$35. As against housing workmen at an average capital cost of \$550 per man in a dormitory and between \$1,750 to \$2,250 in a house, the subsidy was considered an economy.

No loans were made to private agencies for the construction of dwellings. The Corporation did, however, secure priorities for the delivery of necessary material. Communities having housing shortages were informed that unless cooperation was assured in the provision of housing, future war contracts would be placed elsewhere.

House construction was never undertaken by the Corporation until the War or Navy Department had certified that an urgent need existed. Then a careful survey was made by agents of the Corporation to ascertain the kind and condition of local industries and the classes of employees, their earnings, labor turn-over, place of residence,

sanitary conditions, and related factors. Construction of permanent communities and houses was favored by the Corporation; hence, construction of dormitories was restricted to localities urgently needing housing accommodations, where speed was essential, and the nature of the industry indicated impermanence.

RESULTS OF PROGRAM

As the elapsed time from the date when funds were allocated for this program and the end of hostilities was only about 4 months, there was little time for completion of even those buildings that were started in the intervening period. With the end of the war the Corporation was authorized to complete those projects which were in an advanced stage of construction. Work was finished only on properties where it was judged there would be more salvage to the Government from completion and sale of the houses than from the sale of the building materials on order, and where the need was continuing.

When the armistice was signed the Housing Corporation had 94 housing enterprises under consideration and had let contracts for 60. Of the 94 projects, 54 were immediately abandoned, 15 were curtailed, and 25 were proceeded with as planned. The original program contemplated construction of houses for nearly 25,000 families, but after it was curtailed provision was made for housing about 6,000 families in individual units and 8,000 single men and single women in a number of dormitories, hotels, or as boarders in family houses. The projects were in 26 localities. Estimates published when construction was in progress showed that 89 percent of the families would be housed in single-family dwellings and 11 percent in apartments.

Houses of the Corporation were built for rental during the emergency. Rents were fixed after careful study of the cost of construction, prevailing rents of the cities in which they were located, and taking into account the rent-paying ability of the workers to be housed. The object was to establish rates that would be fair to the worker and to the Federal Government and that would not discourage building by private contractors.

Shortly after the signing of the armistice the Senate questioned whether the residence halls being built for woman war workers in the District of Columbia should be completed. An investigation was held and as the crowded conditions existing during the war had not improved perceptibly, the work was continued. As the buildings were temporary structures they were placed on Government-owned land and within the reach of all street improvements. In order to erect the structures with the greatest possible speed long hours were worked by building labor at overtime rates of pay and the cost was high. The rooms with board (2 meals a day) rented at \$45 a month per person and the demand for accommodations was considerable.

Where the need for housing was believed to be temporary, barrack-like dormitories were erected, but permanent houses were furnished in all communities where the demand for additional housing would still exist after the emergency. The experience of the Corporation after the armistice amply demonstrated the wisdom of this policy.

As the housing required was in most cases for skilled workers who were often brought into a community with their families—sufficient numbers of unskilled workers usually being available—it was essential to take into account the relatively high standard of living maintained by this group. Local customs and needs were necessarily considered and the houses erected were therefore quite diverse in different regions. Using a small number of house plans, exteriors were varied to avoid monotony.

When the time came for liquidating the Government's investment, the Housing Corporation undertook the task. Quick measures were taken in November 1918 to halt building that would be unnecessary and orders on vast quantities of material were canceled. Houses which had been rented as finished were gradually sold as conditions became stabilized. The generally uniform contract for the sale of houses was to require a 10-percent down payment and 1 percent per month until the property was paid for in full. Some of the projects were sold as a whole, as for example a 250-house development in Virginia and one consisting of 98 houses in Maine.

HOURS OF WORK OF MUNICIPAL FIREMEN IN THE UNITED STATES¹

HOURS of work for firemen vary greatly from city to city. Since adequate fire protection has to be provided at all times, a large enough force must always be on duty to take care of ordinary needs and be able to meet emergencies. This has resulted in the development of a considerable number of different systems of operation calling for various periods of duty. In some small communities the hours of duty are practically continuous, and the firemen are obliged to live at or near the fire station, where they are on call at all times. Some small cities and towns have volunteer fire departments, whose members are not paid but who are subject to call as required. There are occasional examples of combinations of paid and volunteer units within a city.

In general, the actual system of operation used depends to some extent upon customs in an area, but to a greater extent on the size and financial condition of the city. Continuous or nearly continuous duty is not practical in cities of any appreciable size. Platoon systems have been introduced to avoid the necessity of continuous duty. In the simplest platoon systems the firemen usually work 1 or a few days continuously, and then have a full 24 hours off duty. Other platoon systems have been developed in which one group works 10 hours during the daytime for several days, and then changes over to 14 hours of night duty. Such systems require a 24-hour period of duty for one platoon, and provide a leave period of 24 hours for the other, at each period of change from day to night duty.

There has been a steady but gradual trend toward the elimination of all 24-hour periods of duty. In some large cities, platoon systems have been devised which completely eliminate the 24-hour period of duty, and there is one which provides for an 8-hour day for each fireman, with 1 day off each week. The introduction and establishment of these modern and complicated systems present many problems to city officials. In the first place, the cost increases sharply when hours are reduced, because of the additional personnel needed. For example, the number of firemen needed in a system providing an 8-hour day is about two-thirds greater than for the system in which 2 full days on duty is followed by 1 day off. Secondly, the problem of organization and personnel training is complicated by any change of system which reduces the hours and increases the number of men required. Certain specific requirements as to the number of consecutive hours on duty and days off are often imposed by law, and any change involves months of detailed planning to meet these legal requirements and still provide at all times the requisite number of firemen in each grade and

¹ Prepared by Carol P. Brainerd and Gerald M. Whitright, under the supervision of Herman B. Byer, Chief of the Bureau's Division of Construction and Public Employment.

occupational classification. Budgetary considerations are frequently the controlling factor in determining the system of operation, but the general tendency is toward shorter hours and more regular periods of duty.

A comprehensive study of firemen's wages, hours, and working conditions is being conducted by the Division of Construction and Public Employment of the Bureau of Labor Statistics, in cooperation with the Work Projects Administration. Data have been collected and tabulated for fire departments in cities having 25,000 inhabitants and more. Three hundred and sixty-seven of the 377 cities of this size in the country have reported complete data as of July 1, 1938. The results of this survey will be published in a series of reports, one for the United States as a whole, and one giving details by cities for each of nine regions. Other subjects to be included in the reports are: Disabling injuries, promotion of lower-grade privates, vacations with pay, items supplied firemen, and volunteer and call systems. The general subject of the hours of work in various types of platoon systems is presented here.

Single-Platoon System

The single-platoon system ranks next to continuous service with respect to the length of the workweek. Firemen working under one type of single-platoon system are on duty 144 hours per week, as compared with 168 hours for the full week of continuous service. In this type, the fireman is on duty 24 hours a day for 6 days and then has 1 day of leave. If there were 70 firemen on the force, 10 of them could take their day of leave on each day of the week in succession. Thus six-sevenths of the force would be on duty at all times.

In another common variation of the single-platoon system, the members of the force are on duty for 2 days and then off for 1. Under this plan the fireman works 14 full days in a period of 3 weeks, making an average workweek of 4.7 days or 112 hours. The period of 3 weeks is taken as a basis for computing all averages, because not until this period of 21 days is completed does the fireman have a workweek which is identical in all respects to that of a preceding week. For instance, if a member of the force started to work on Monday at 8 a. m., at the same time in the following week he would be at the mid-point of a 48-hour period of duty. Monday of the next week would be his day off. However, on Monday morning of the fourth week he starts his second cycle, which is identical in all respects to the first 21 days. In the first and second week he has 2 days off in each, and in the third week he has 3 days off.

The shortest workweek under the single-platoon system occurs in a variation in which the pattern is 1 day on and 2 days off, but this type is not common. The average hours worked in this type are 56 per week.

Double-Platoon System

By far the greatest number of firemen work under what is called the double-platoon system, and there are about a half a dozen important types of this system. The simplest is one in which one platoon of firemen is on duty 24 hours without interruption, and then off duty for 24 hours. The second platoon merely alternates with the first in order to maintain continuous fire-protection service. This system is still generally used in many parts of the country because of its simplicity of operation, particularly in smaller departments where limited personnel does not permit more complicated systems. Its primary disadvantage is that the fireman has to be on duty 24 hours a day every other day.

Firemen's hours are usually long because of the nature of the work, and they are likely to be irregular regardless of the type of system used. Many efforts have been made to relieve firemen from the long 24-hour periods of duty. The term "tour" is applied to any period of consecutive hours on duty or off duty. The word "shift," as used in fire departments throughout the country, usually refers to the time when one group or platoon of firemen relieves the platoon which has just completed a tour. One of the most common of the double-platoon systems reduces the number of 24-hour tours by one-half (as compared with the 24-hours-on and 24-hours-off plan). A brief examination of the operation of this type of double-platoon system will illustrate the difficulty involved in reducing the long tours, and it will show clearly the irregularity in the hours of work. It may be designated as a simple double-platoon system with the shift on the third day.

The characteristic which differentiates this type of double-platoon system from others is that the 24-hour tour of duty comes on the third day and the 24 hours off duty comes on the sixth day. For example, if a fireman on one of the platoons starts to work on Monday morning he works 10 hours during the day, from 8 o'clock in the morning to 6 in the evening. On Tuesday he has the same schedule, but on Wednesday at 8 in the morning he starts his first 24-hour tour of duty. The next three days (Thursday, Friday, and Saturday) he is off duty during the same hours he worked the first 3 days. Thursday evening at 6 o'clock he starts a 14-hour tour which lasts until 8 the next morning. Friday he repeats the same schedule, but when he finishes the 14-hour tour on Saturday morning he begins his 24-hour period off duty. A 6-day cycle is then completed, and on Sunday morning he starts an identical cycle of 6 days, except for the fact that it begins on Sunday instead of Monday. The irregularity of his hours is shown by the following chart which describes his time on and off duty during

each 6-day period. There are approximately 61 of these 6-day periods in each year. During each week the fireman working under this system works an average of 84 hours, or approximately 5.8 days per week of 14.4 hours each day.

Not only are the hours of work irregular, but the character of the workweek is also irregular. For example, the first week begins with a 10-hour day, the third week begins with a 24-hour tour of duty, the sixth week begins with a period of 24 hours off duty. Not until the seventh week does the fireman experience a workweek which is identical in all respects with any of the first 6 weeks. His identical weeks are always 6 weeks apart.

It is after the first 24-hour tour of Platoon No. 1 that the two platoons shift. That is, this 24 hours on duty by Platoon No. 1 and 24 hours off duty for Platoon No. 2, falling on the third day in this case, introduces a change in the type of hours for each platoon. Platoon No. 1, which had been working 10 hours in the day time for 2 days before the long tour, is then on duty 14 hours running through the night for 2 days. Platoon No. 2, of course, works the opposite tours. Thus, the 24-hour tours are always a signal for a shift in the platoons.

CHART 1.—Two-Platoon System—Shift on 3d Day

Day	Platoon No. 1	Platoon No. 2
1...	XXXXXXXXXX	XXXXXXXXXXXXXXXXXX
2...	XXXXXXXXXX	XXXXXXXXXXXXXXXXXX
3...	XXXXXXXXXXXXXXXXXXXXXXXXXXXX	.....
4...	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXX
5...	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXX
6...	.....	XXXXXXXXXXXXXXXXXXXXXXXXXXXX

X represents 1 hour on duty; blank spaces represent 10 or 14 hours off duty.
Asterisks (**) represent 24 hours off duty.

The various types of double-platoon systems differ primarily in the number of days worked before the 24-hour tour is introduced to shift a platoon from one set of hours to the other. Shifts on the third, fourth, fifth, sixth, seventh, or eighth day are common in fire departments throughout the country. If no additional time off is granted, the firemen in these cases work 84 hours a week. When additional time off each week is given, the hours worked are usually 72 per week. This occurs in several States where State laws provide for 1 full day of leave per week for all firemen.

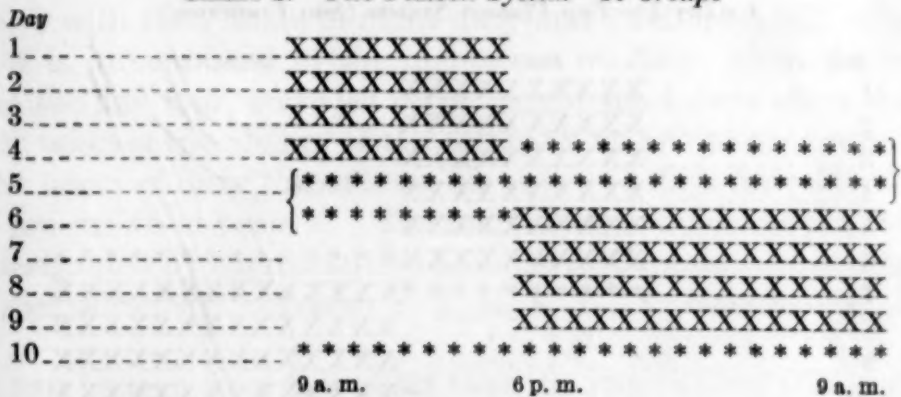
10-Group System (Double-Platoon)

There is a type of double-platoon system which completely eliminates the 24-hour tour. It is called the "10-group or elimination system." It is called the "elimination system" because it eliminates the necessity for any 24-hour tours of duty for the firemen. The operation of 1 of these systems follows.

The tours of duty for the first platoon are from 9 a. m. to 6 p. m. and for the second platoon from 6 p. m. to 9 a. m. The entire force of firemen is divided into 10 groups, and the groups are so combined for duty that continuous service is maintained with the maximum personnel at all times. The pattern of the hours of duty and time off repeats itself every 10 days. During these 10 days each fireman has 8 tours of duty and 2 long tours off. The 8 tours of duty consist of four 9-hour tours, and four 15-hour tours, a total of 96 hours in 10 days, or an average of 9 hours and 36 minutes per day.

Every 10 days each member receives one 48-hour leave and one 24-hour leave. He is also off duty three 9-hour periods and three 15-hour periods, making a total of 144 hours off and 96 hours on. On each day the 10 groups are arranged so that the members of one group are on 24-hour leave, members of another group are about in the middle of their 48-hour leave, members of 4 groups are working a 9-hour tour of duty, and members of 4 groups are working a 15-hour tour. Members of most 10-group elimination double-platoon systems work about 68 hours per week. An illustration of this system follows.

CHART 2.—Two-Platoon System—10 Groups



X equals 1 hour of duty; blank spaces represent 15 or 9 hours off duty.
Asterisks (* *) represent leave periods of 24 or 48 hours.

TABLE 1.—Two-Platoon System—10 Groups

Day.....	1	2	3	4	5	6	7	8	9	10
Tour.....	9 F	9 F	9 F	9 F	9 F	9 F	9 F	9 F	9 F	9 F
Groups on duty.....	2 3 4 5 8 7 T 9	1 3 4 5 8 6 T 9	1 2 4 5 7 6 T 9	1 2 3 5 7 6 T 8	1 2 3 4 7 6 9 8	3 2 5 4 7 8 9 T	3 1 5 4 6 8 9 T	2 1 5 4 6 7 9 T	2 1 5 3 6 7 8 T	2 1 4 3 6 7 8 9
Groups off 48 hours.....	6 6 5 2	6 8 2 2	8 8 2 4	8 T 4 4	T T 4 1	T 7 1 1	7 7 1 3	7 9 3 3	9 9 3 5	9 6 5 5
Groups off 24 hours.....	1 1	7 7	3 3	9 9	5 5	6 6	2 2	8 8	4 4	T T

Groups not shown in the above table for any tour are at that time taking a 9-hour or 15-hour period of leave.
NOTE.—On the tour line the figure 9 represents the 9-hour tour from 9 a. m. to 6 p. m.; the letter F represents the 15-hour tour from 6 p. m. to 9 a. m. Each figure under the tour line represents the number of the group, from 1 to 9, and the capital T represents the tenth group.

The word "platoon" takes on a different meaning in 10-group systems. In the simpler systems a platoon is a group of firemen who are either on duty or on leave. One platoon relieves the other. However, in the 10-group systems, it is the groups which relieve each other. They do this in such a manner that no group is compelled to be on duty for a full 24 hours consecutively. Nevertheless, the word "platoon" does retain a meaning in this case. In this example, there were two platoons in the sense that there were 2 types of tours, namely the 9-hour tour beginning at 9 a. m. and the 15-hour tour starting at 6 p. m. Table 1 enables one to locate a member of any of the 10 groups during any period of their 10-day cycle.

Overlapping Group System (Double-Platoon)

The city of San Francisco has developed a unique variation of the double-platoon system in which each member of the force works the same general pattern of hours and these patterns or cycles overlap each other. The general pattern of hours worked by each fireman is here shown.

CHART 3.—*Two-Platoon System (San Francisco)*

<i>Day</i>	<i>Day tour</i>	<i>Night tour</i>
1-----	XXXXXXXXXXXX	
2-----	XXXXXXXXXXXX	
3-----	XXXXXXXXXXXX	
4-----	XXXXXXXXXXXX	
5-----	XXXXXXXXXXXX	
6-----	XXXXXXXXXXXX	*****
7-----	*****	XXXXXXXXXXXX
8-----		XXXXXXXXXXXX
9-----		XXXXXXXXXXXX
10-----		XXXXXXXXXXXX
11-----		XXXXXXXXXXXX
12-----		XXXXXXXXXXXX
13-----		XXXXXXXXXXXX
14-----	*****	
15-----	*****	

X represents 1 hour of work; blank spaces represent 10 or 14 hours off duty.

Asterisks (* *) represent 24- or 48-hour leave.

It will be noted that the fireman is on duty 10 hours during the daytime the first 6 days and then he is off duty 24 hours. This 24 hours off extends through parts of the sixth and seventh days. However, during the early part of the sixth day he works a day tour of 10 hours and during the night of the seventh day he is on duty 14 hours, but these two tours of duty are 24 hours apart. The night tour of the seventh day is the beginning of a series of 7 night tours, after which he has 2 full days off. His 15-day cycle is then completed and another is started. It is identical in all respects with the first,

except that it begins on a different day of the week. If the first began on Monday, the second would start on a Tuesday. Not until seven periods are completed does the fireman start a cycle again on a Monday.

As in all platoon systems, the primary purpose is to maintain a constant and balanced fire-fighting force on duty at all times, but at the same time allow the firemen reasonable hours of work and adequate time off.

In order to illustrate how this is achieved by the San Francisco double-platoon system, it might be well to examine the detailed operation of a typical engine company consisting of 14 men, of which 1 officer and 5 firemen are on duty at all times. The engine company is comprised of 2 officers, 1 relief officer, 5 hosemen, and 6 drivers. Six men worked 6 day tours and 7 night tours; 6 men worked 7 day tours and 6 night tours; and 2 worked 6 day tours and 6 night tours. The officers consist of 1 captain, 1 lieutenant, and a relief officer who is capable of heading the engine company but who can also serve in other capacities in the company.

The captain is on duty the day tour of the first 6 days of the cycle, and he is then off duty for 24 hours; following this he finishes out the 15 days with the 7 tours of night duty and 2 full days off. The lieutenant is in command of the night tour on dates when the captain works the day tour, and vice versa, except the 4 days when the relief officer takes entire charge of the company on one of the tours.

The hours of duty throughout the entire 15 days for each of the 14 men are shown in table 2. The individual members of the company are designated by capital letters as follows: Captain=A; lieutenant=B; relief officer=C; drivers=S, T, U, V, W, X; Hoseman=L, M, N, O, P.

It can be seen from this chart that the relief officer is in command alone on only 4 tours and at other times he is on duty with the lieutenant. There are three drivers on duty during 18 of the 30 tours, and only two on duty during the remaining 12. On 26 tours there are 2 hosemen and on 4 tours there are 3. Five men work 6 day tours and 7 night tours; 5 men work 7 day tours and 6 night tours, and 2 work 6 day tours and 6 night tours. In spite of these apparent irregularities there are 1 officer and 5 men on duty at all times.

The captain and driver X start their cycles on the same day and tour, but the captain remains on the day tour for 6 days, while the driver stays on day tour for 7 days. The same situation exists for hoseman O and driver T, but all other members of the company start their cycle on different days. Thus, no two men are on duty for identical cycles.

TABLE 2.—Hours of Duty—San Francisco Double-Platoon System

Days.....	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Tour.....	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2
Members of company on duty.....	AB VU ML XC PW SN OO TT B N	AB VU ML XC PW SN OO TT P S	AB TL VC MW XN OS UU (PP) S	AB TC VW MN XP OS LL UU P V	AB TV UW MN XP OS LL CO VM	AB TV LM XN OP US CC WW MA	TA UV LM CN XP OS BB WW AX	TA UV LM CX WP OS BB NN XT	BA UT LV CM WX OP SS NN TO	BA UT LV CM WX NO SS PP OU	BA LT CU WM NX SO VV PP UL	BA CT WU NL PX SO VV MM L	BA VT WU NL PX SO C(C) MM W	BT VU ML NC PW SO AA CX W	BT VU ML NC PW SO AA XX B N
Men on 48-hour leave.....															
Men on 24-hour leave.....															

(x) equals extra day off.

The first row of figures designate the days of the 15-day cycle.

In the second row, the figure 1 represents the 10-hour day tour and 2 represents the 14-hour night tour.

Each capital letter represents an individual member of the company and his position indicates whether he is on or off duty.

The six men working the 6-day tours and 7-night tours work slightly longer hours per week than the group working 7-day tours and 6-night tours. The former are on duty an average of 72.8 hours per week and the latter 71.2. This represents an average for all firemen of 72 hours of duty per week. The system as it is set up allows the fireman 2 days off with pay every 15 days, but the law requires that firemen receive the equivalent of 1 day off a week, or $2\frac{1}{2}$ days off every 15 days. Since fractional days off are not practical, the department allows the sevenths of a day to accumulate for 7 periods of 15 days (105 days, 15 weeks) and then gives each man an extra day off. The extra day off for each man falls on the same day of the week each time. This explains the reason for the extra days off shown in parentheses in table 2.

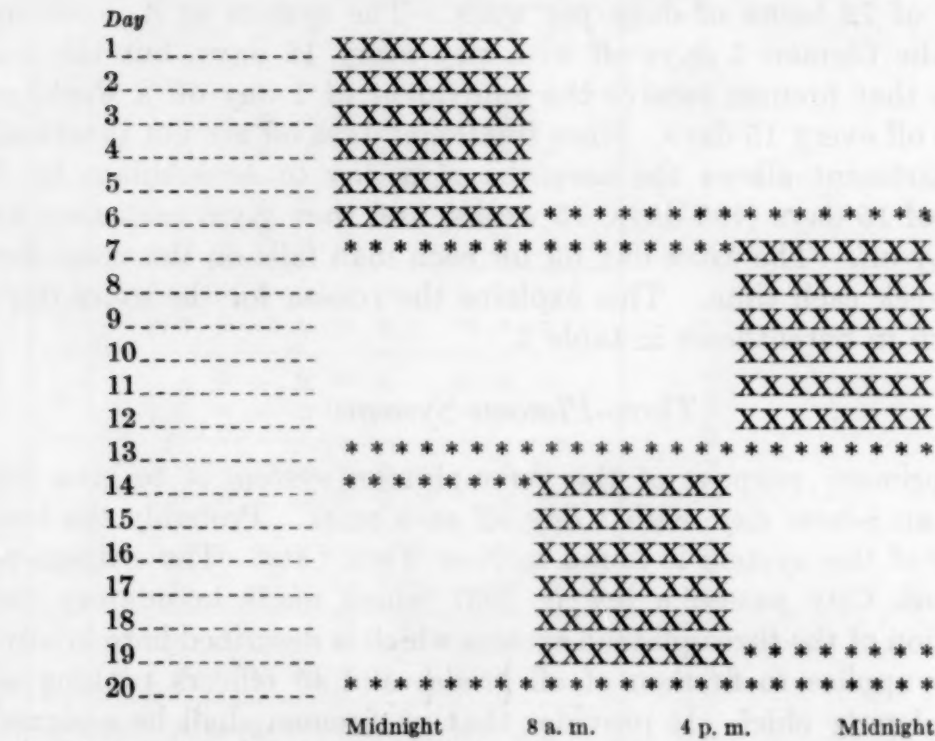
Three-Platoon System

The primary purpose of the three-platoon system is to give the firemen an 8-hour day, with 1 day off each week. Probably the best example of this system is found in New York City. The citizens of New York City passed a law in 1937 which made mandatory the installation of the three-platoon system which is described here briefly. The law applies to firemen of all grades and to officers ranking as high as deputy chief. It provides that no fireman shall be assigned to more than one tour of duty in any 24 consecutive hours and that no tour of duty shall exceed 8 consecutive hours. Also the type of tour is changed each week for every fireman, giving him an 8-hour shift beginning at midnight 1 week, at 4 p. m. the next week, and 8 a. m. the third week.

Under this three-platoon system the fire-fighting personnel is divided into 10 groups in a manner somewhat similar to that explained above in the elimination or 10-group double-platoon system. Three groups are on duty each tour, and 2 groups are off on their 32-hour leave. Each day 3 of the groups are on a tour which began at midnight, 3 are on a tour which began at 8 a. m., and 3 at 4 p. m. Each group works 6 tours of one type and then takes a leave of 32 hours. The next week the groups change types of tours. In other words, if group 1 works the tour beginning at midnight for 6 days, the next week the group will shift to the tour beginning at 4 p. m., and in the third week the cycle is completed with 6 tours beginning at 8 a. m. It takes 20 days to complete this cycle. The 32-hour leave which occurs between the tour extending from midnight to 8 a. m. and the tour from 4 p. m. to midnight is responsible for the cycle being 20 days in length rather than 21 days. During the 2 days in which this 32 hours off occurs each member performs 8 hours' duty on each day but they are 32 hours apart. In the 20-day period each group performs

18 tours of duty. These situations are illustrated in the accompanying chart.

CHART 4.—Three-Platoon System—10 Groups, New York City



X equals 1 hour of duty; blank spaces represent 16 hours of leave on 5 consecutive days.
Asterisks (* * *) represent a 32-hour leave.

Since 20 days is one day short of a 3-week period, it can be seen that if the first cycle began on Monday the second cycle must start on a Sunday. Hence a fireman in any one group would have to work through 7 complete cycles before he would start a cycle on the same day of the week that he started the first cycle. While there still remains some irregularity in firemen's hours under this system, he has better general working conditions because of the 8-hour day, and the day off each week.

Systems in Operation in Individual Cities

The systems of operation in the fire departments in 367 cities having a population of 25,000 or over is shown, by cities, in table 3.

TABLE 3.—Systems of Operation in All Fire Departments in 367 Cities Having a Population of 25,000 or Over

NEW ENGLAND STATES

City and State	System of operation			City and State	System of operation		
	Single platoon	2 platoon	Others		Single platoon	2 platoon	Others
Group I:				Group III:			
Boston, Mass.		x		Arlington, Mass.		x	
Bridgeport, Conn.		x		Bangor, Maine	x		
Cambridge, Mass.		x		Beverly, Mass.		x	
Fall River, Mass.		x		Bristol, Conn.		x	
Hartford, Conn.		x		Brookline, Mass.		x	
Lowell, Mass.		x		Central Falls, R. I.		x	
Lynn, Mass.		x		Chelsea, Mass.		x	
New Bedford, Mass.		x		Chicopee, Mass.		x	
New Haven, Conn.		x		Concord, N. H.	x		
Providence, R. I.		x		Cranston, R. I.		x	
Somerville, Mass.		x		E. Providence, R. I.		x	
Springfield, Mass.		x		Everett, Mass.		x	
Worcester, Mass.		x		Fitchburg, Mass.		x	
				Haverhill, Mass.		x	
Group II:				Lewiston, Maine	x		
Brockton, Mass.		x		Meriden, Conn.		x	
Holyoke, Mass.		x		Nashua, N. H.	x		
Lawrence, Mass.		x		Newport, R. I.		x	
Malden, Mass.		x		New London, Conn.		x	
Manchester, N. H.	x			Norwalk, Conn.		x	
Medford, Mass.		x		Pittsfield, Mass.		x	
New Britain, Conn.		x		Revere, Mass.		x	
Newton, Mass.	x			Salem, Mass.		x	
Pawtucket, R. I.		x		Stamford, Conn.		x	
Portland, Maine	x			Taunton, Mass.		x	
Quincy, Mass.		x		Torrington, Mass.		x	
Waterbury, Conn.		x		Waltham, Mass.		x	
				Watertown, Mass.		x	
				Woonsocket, R. I.		x	

MIDDLE ATLANTIC STATES

Group I:				Group III—Continued.			
Buffalo, N. Y.		x		Union City, N. J.		x	
Philadelphia, Pa.		x		Wilkes-Barre, Pa.		x	
Pittsburgh, Pa.		x		York, Pa.		x	
New York City, N. Y.			¹ x	Group IV:			
Group II:				Alliquippa, Pa.	x		
Albany, N. Y.		x		Amsterdam, N. Y.		x	
Camden, N. J.		x		Auburn, N. Y.		x	
Elizabeth, N. J.		x		Belleville, N. J.		x	
Erie, Pa.		x		Bloomfield, N. J.		x	
Newark, N. J.		x		Clifton, N. J.		x	
Paterson, N. J.		x		Easton, Pa.		x	
Rochester, N. Y.		x		Elmira, N. Y.		x	
Scranton, Pa.		x		Garfield, N. J.			² x
Syracuse, N. Y.		x		Hazleton, Pa.		x	
Trenton, N. J.		x		Jamestown, N. Y.		x	
Utica, N. Y.		x		Kearney, N. J.		x	
Yonkers, N. Y.		x		Kingston, N. Y.		x	
Group III:				Lower Merion, Pa.			² x
Allentown, Pa.		x		Montclair, N. J.		x	
Altoona, Pa.		x		Nanticoke, Pa.		x	
Atlantic City, N. J.		x		Newburgh, N. Y.		x	
Bayonne, N. J.		x		New Brunswick, N. J.		x	
Bethlehem, Pa.		x		New Castle, Pa.		x	
Binghamton, N. Y.		x		Norristown, Pa.			² x
Chester, Pa.	x			Orange, N. J.		x	
East Orange, N. J.		x		Perth Amboy, N. J.		x	
Harrisburg, Pa.		x		Plainfield, N. J.		x	
Hoboken, N. J.		x		Poughkeepsie, N. Y.		x	
Irvington, N. J.		x		Rome, N. Y.		x	
Johnstown, Pa.		x		Sharon, Pa.		x	
Lancaster, Pa.		x		Upper Darby, Pa.			² x
McKeesport, Pa.		x		Watertown, N. Y.		x	
Mount Vernon, N. Y.		x		West New York, N. J.		x	
New Rochelle, N. Y.		x		White Plains, N. Y.		x	
Niagara Falls, N. Y.		x		Wilkesburg, Pa.		x	
Passaic, N. J.		x		Williamsport, Pa.		x	
Schenectady, N. Y.		x		Woodbridge, N. J.		x	
Troy, N. Y.		x					

¹ 3-platoon, 10-group system.² Volunteer systems.

TABLE 3.—Systems of Operation in All Fire Departments in 367 Cities Having a Population of 25,000 or Over—Continued

EAST NORTH CENTRAL STATES

City and State	System of operation			City and State	System of operation		
	Single platoon	2 platoon	Others		Single platoon	2 platoon	Others
Group I:				Group IV—Continued.			
Detroit, Mich.		x		Appleton, Wis.		x	
Chicago, Ill.		x		Battle Creek, Mich.		x	
Cleveland, Ohio		x		Bay City, Mich.		x	
Milwaukee, Wis.		x		Belleville, Ill.		x	
Group II:				Berwyn, Ill.		x	
Akron, Ohio		x		Bloomington, Ill.		x	
Canton, Ohio		x		Danville, Ill.		x	
Cincinnati, Ohio		x		East Cleveland, Ohio		x	
Columbus, Ohio		x		Eau Claire, Wis.		x	
Evansville, Ind.		x		Elgin, Ill.		x	
Dayton, Ohio		x		Elkhart, Ind.		x	
Flint, Mich.		x		Elyria, Ohio		x	
Fort Wayne, Ind.		x		Fond-du-Lac, Wis.		x	
Gary, Indiana		x		Galesburg, Ill.		x	
Grand Rapids, Mich.	x			Granite City, Ill.		x	
Indianapolis, Ind.		x		Green Bay, Wis.		x	
Peoria, Ill.		x		Joliet, Ill.		x	
South Bend, Ind.		x		Kokomo, Ind.		x	
Toledo, Ohio	x			La Crosse, Wis.		x	
Youngstown, Ohio		x		Lafayette, Wis.		x	
Group III:				Lima, Ohio		x	
Cicero, Ill.		x		Lorain, Ohio		x	
Cleveland Heights, Ohio		x		Mansfield, Ohio		x	
Dearborn, Mich.		x		Marion, Ohio		x	
Decatur, Ill.		x		Massillon, Ohio		x	
East Chicago, Ill.		x		Maywood, Ill.		x	
Evanston, Ill.		x		Michigan City, Ind.		x	
Hamilton, Ohio		x		Middletown, Ohio		x	
Hammond, Ind.		x		Mishawaka, Ind.		x	
Hamtramck, Mich.		x		Moline, Ill.		x	
Highland Park, Mich.		x		Muncie, Ind.		x	
Jackson, Mich.		x		Muskegon, Mich.		x	
Kenosha, Wis.		x		New Albany, Ind.		x	
Kalamazoo, Mich.		x		Newark, Ohio		x	
Lakewood, Ohio		x		Norwood, Ohio		x	
Lansing, Mich.		x		Oshkosh, Wis.		x	
Madison, Wis.		x		Port Huron, Mich.		x	
Oak Park, Ill.		x		Portsmouth, Ohio		x	
Pontiac, Mich.		x		Quincy, Ill.		x	
Racine, Wis.		x		Richmond, Ind.		x	
Rockford, Ill.		x		Rock Island, Ill.		x	
Saginaw, Mich.		x		Sheboygan, Wis.		x	
Springfield, Ill.		x		Steubenville, Ohio		x	
Springfield, Ohio		x		Superior, Wis.		x	
Terre Haute, Ind.		x		Warren, Ohio		x	
Group IV:				Waukegan, Ill.		x	
Alton, Ill.		x		Wyandotte, Mich.		x	
Anderson, Ind.		x		West Allis, Wis.		x	
Ann Arbor, Mich.		x		Zanesville, Ohio		x	

WEST NORTH CENTRAL STATES

Group I:				Group II—Continued.			
Des Moines, Iowa		x		Springfield, Mo.		x	
Duluth, Minn.		x		Topeka, Kans.		x	
Kansas City, Kans.		x		Group III:			
Kansas City, Mo.		x		Burlington, Iowa		x	
Minneapolis, Minn.		x		Clinton, Iowa	x		
Omaha, Nebr.		x		Council Bluffs, Iowa		x	
St. Louis, Mo.		x		Dubuque, Iowa		x	
St. Paul, Minn.		x		Fargo, N. Dak.		x	
Wichita, Kans.		x		Hutchinson, Kans.		x	
Group II:				Joplin, Mo.		x	
Cedar Rapids, Iowa		x		Ottumwa, Iowa		x	
Davenport, Iowa		x		Sioux Falls, S. Dak.		x	
Lincoln, Nebr.		x		University City, Mo.	x		
St. Joseph, Mo.		x		Waterloo, Iowa		x	
Sioux City, Mo.		x					

Hours of Work of Municipal Firemen

25

TABLE 3.—Systems of Operation in All Fire Departments in 367 Cities Having a Population of 25,000 or Over—Continued

SOUTH ATLANTIC STATES

City and State	System of operation			City and State	System of operation		
	Single platoon	2 platoon	Others		Single platoon	2 platoon	Others
Group I:				Group II—Continued.			
Atlanta, Ga.		x		Savannah, Ga.		x	
Baltimore, Md.		x		Wheeling, W. Va.		x	
Jacksonville, Fla.		x		Winston-Salem, N. C.		x	
Miami, Fla.		x		Group III:			
Norfolk, Va.		x		Clarksburg, W. Va.		x	
Richmond, Va.		x		Columbus, Ga.		x	
Tampa, Fla.		x		Cumberland, Md.		x	
Washington, D. C.		x		Greenville, S. C.		x	
Wilmington, Del.		x		Hagerstown, Md.		x	
Group II:				High Point, N. C.	x		
Asheville, N. C.		x		Lynchburg, Va.		x	
Augusta, Ga.		x		Newport News, Va.		x	
Charlotte, N. C.		x		Orlando, Fla.		x	
Charleston, S. C.		x		Parkersburg, W. Va.		x	
Charleston, W. Va.		x		Petersburg, Va.		x	
Columbia, S. C.		x		Portsmouth, Va.		x	
Durham, N. C.		x		Raleigh, N. C.		x	
Greensboro, N. C.	x			St. Petersburg, Fla.		x	
Huntington, W. Va.		x		Spartanburg, S. C.		x	
Macon, Ga.		x		Wilmington, N. C.		x	
Roanoke, Va.		x					

EAST SOUTH CENTRAL STATES

Group I:				Group II—Continued.			
Birmingham, Ala.		x		Montgomery, Ala.		x	
Chattanooga, Tenn.		x		Group III:			
Knoxville, Tenn.		x		Ashland, Ky.		x	
Louisville, Ky.		x		Jackson, Miss.		x	
Nashville, Tenn.		x		Johnson City, Tenn.		x	
Memphis, Tenn.		x		Lexington, Ky.		x	
Group II:				Meridian, Miss.		x	
Covington, Ky.		x		Newport, Ky.		x	
Mobile, Ala.		x		Paducah, Ky.		x	

WEST SOUTH CENTRAL STATES

Group I:				Group II—Continued.			
Dallas, Tex.		x		Shreveport, La.		x	
El Paso, Tex.		x		Waco, Tex.		x	
Fort Worth, Tex.		x		Group III:			
Houston, Tex.		x		Amarillo, Tex.		x	
New Orleans, La.		x		Baton Rouge, La.		x	
Oklahoma City, Okla.		x		Corpus Christi, Tex.	x		
San Antonio, Tex.		x		Enid, Okla.		x	
Tulsa, Okla.		x		Fort Smith, Ark.		x	
Group II:				Laredo, Tex.		x	
Austin, Tex.		x		Monroe, La. ³			
Beaumont, Tex.		x		Muskogee, Okla.		x	
Galveston, Tex.		x		San Angelo, Tex.	x		
Little Rock, Ark.		x		Texarkana, Tex.		x	
Port Arthur, Tex.		x		Wichita Falls, Tex.		x	

MOUNTAIN STATES

Group I:				Group III—Continued.			
Denver, Colo.		x		Butte, Mont.			⁴ x
Salt Lake City, Utah		x		Colorado Springs, Colo.		x	
Group II:				Great Falls, Mont.			⁴ x
Pueblo, Colo.		x		Ogden, Utah.		x	
Group III:				Phoenix, Ariz.		x	
Albuquerque, N. Mex.		x		Tucson, Ariz.		x	

³ Information not complete.

⁴ 3-platoon systems.

TABLE 3.—Systems of Operation in All Fire Departments in 367 Cities Having a Population of 25,000 or Over—Continued

PACIFIC STATES

City and State	System of operation			City and State	System of operation		
	Single platoon	2 platoon	Others		Single platoon	2 platoon	Others
Group I:				Group II—Continued.			
Long Beach, Calif.....		x		San Jose, Calif.....		x	
Los Angeles, Calif.....		x		Group III:			
Oakland, Calif.....		x		Alameda, Calif.....		x	
Portland, Oreg.....		x		Alhambra, Calif.....		x	
San Diego, Calif.....		x		Bakersfield, Calif.....		x	
San Francisco, Calif.....		x		Bellingham, Calif.....		x	
Seattle, Wash.....		x		Belvidere, Calif.....			¹ x
Spokane, Wash.....		x		Everett, Wash.....		x	
Tacoma, Wash.....		x		Riverside, Calif.....		x	
Group II:				Santa Ana, Calif.....		x	
Berkley, Calif.....		x		Salem, Oreg.....		x	
Fresno, Calif.....		x		San Bernardino, Calif.....		x	
Glendale, Calif.....		x		Santa Barbara, Calif.....		x	
Pasadena, Calif.....		x		Santa Monica, Calif.....		x	
Sacramento, Calif.....		x		Stockton, Calif.....		x	

¹ Volunteer systems.

Wartime Emergency Controls

WARTIME TRAINING OF PERSONNEL AND THE DILUTION OF LABOR IN CANADA

IN THE face of war, after a prolonged depression during which employment and training opportunities were drastically reduced, the training of personnel and the dilution of labor are problems of outstanding importance to such a nation as Canada. Confronted with a possible dearth of skilled mechanics, and in view of the long period of training required to make a skilled worker, it would seem, according to a recent address by the Director of the Labor Relations War Supply Board of Canada,¹ that "industry and labor must cooperate, and endeavor to place the skilled mechanics where they are most needed and fill their places with semiskilled labor."

In reply to the question, "where is the semiskilled labor?" the director suggests that by formulating definite plans for employment and training, many semiskilled workers can be equipped in a very brief period.

At present some employers are inclined, with the expansion of their business, to lengthen hours and to employ only experienced men. Such employers claim that the workers are glad to have the additional earnings. In the judgment of the speaker quoted, however, working hours should not be extended during a period when so many persons are in search of employment. "In fact, every effort should be put forth to reduce the hours of work, wherever possible, and thereby create employment." In this way additional workers would be brought into industry who, when trained, would be available for an emergency.

In years past there were, generally speaking, only two classes of labor—skilled and unskilled. At present there is also what might be called the in-between class—semiskilled labor—and the problem would appear to be how to bring inexperienced persons into industry and convert them as quickly as possible into semiskilled workers.

An example of what can be accomplished along this line was said to be furnished by the labor provisions which the Canadian War Supply Board has embodied in all contracts entered into for aircraft manufacture, beginning with January 23, 1940.

¹ Canadian Congress Journal, Ottawa, April 1940.

Under these contracts, hours per week are limited to 48, except in cases of necessity or emergency. If overtime is required, payment is made at time and one-half the usual rate. The minimum hourly rate for pattern makers and tool and die makers is 75 cents, and for all other skilled mechanics 65 cents.

The classification of semiskilled workers and the rates for the respective classes are given below:

<i>Production workers</i>		<i>Cents per hour</i>
Class A (comprising workpeople engaged, under supervision, in repetitive machine, assembly, or bench work, requiring less training, experience, and skill than that necessary to qualify as journeymen; also riveters, upholsterers, sand blasters, fabric workers (male), and heat-treat operators on automatic furnaces).....		55
Class B (comprising workpeople—including those who have received training under plans approved by the Minister of Labor—engaged in repetitive machine, assembly, or bench work requiring less training, experience, and skill than that necessary for class A production workers; also helpers assigned to assist journeymen; dopers; and female fabric workers).....		45
Class C (comprising workpeople not less than 18 years of age, inexperienced in aircraft manufacture, receiving training for class A or class B production work, the period of training not to exceed 3 months).....		35
Class D (comprising boys under 18 years of age receiving training for class A, class B, or class C production work, the period of training to be for not less than 3 months nor more than 9 months):		
First 3 months.....		20
Second 3 months.....		25
Third 3 months.....		30
Laborers.....		40
Apprentices (indentured, between ages of 16 and 21 years) may be employed in proportion of 1 apprentice to each 5 journeymen, in the following trades:		
Fitter, machinist, and sheet-metal worker:		
First year.....		20
Second year.....		25
Third year.....		35
Fourth year.....		45

Production workers class C and class D shall for 1 month be considered probationers. If they are retained for a longer period they will be considered trainees, and at the close of the training period be promoted to one of the higher classes. Those in class D production work shall, when they complete their eighteenth year, be at once placed in a higher class.

Each worker, unless he is a common laborer, will receive at the time of his employment an engagement certificate, specifying the class in which he is to be employed; and when he completes his service with the contractor, he "shall within 3 days thereafter be furnished with a certificate signed by the contractor or his agent in which shall be set forth a record showing the length of time and in what classifications such person was employed by the contractor."

It is planned to make these provisions uniform throughout the Dominion in the aircraft industry. An attempt is also being made to apply the same principle in some other industrial lines connected with war production. "The 48-hour week, with payment at time and one-half for overtime, has a tendency to create the greatest possible amount of employment."

Under any training system, the selection of those who will supervise the trainees must be made with great care. Patience should be the chief virtue of a supervisor.

The present abnormally high standard of efficiency is an outcome of the depression. When it was necessary to cut down the force, some employers retained their most efficient workers and laid off those who fell short of the highest standard. Employers should not expect the same performance from new employees as from these older workers.

Employees should be encouraged to join legitimate, responsible labor organizations.

Before they begin to train workers to become semiskilled, all available skilled mechanics should be furnished jobs, as such men are entitled to the first opportunities and, also, their services should be retained when possible.

Some industries make a practice of employing semiskilled men to perform service which properly belongs to the skilled workman, and when reductions in staff are necessary, we know of cases where the skilled workmen were laid off, and the semiskilled workmen are kept at work. This system militates against the training of workmen for the semiskilled positions, for the reason that it is contrary to human nature for a skilled workman to do a thorough job of training a new employee to become a semiskilled workman as long as he has a feeling in his heart that the day may come when the employer will lay him off, and keep the semiskilled man in employment. This could be partly overcome if a system of seniority prevailed in all lines of industry, but unfortunately many employers are not in favor of recognizing seniority, and are inclined during depression to dispense with the services of the skilled mechanic and keep the semiskilled workman in employment doing the work of the skilled man at a lower rate of pay. Such a condition is absolutely unfair.

No serious consideration, in the speaker's opinion, should be given to the recruiting of female help for industry until there is an imminent scarcity of male labor. However, he conceded that it might be well to train a restricted number of females with a view to having them equipped to instruct additional female help, should the services of woman workers be required.

REGISTRATION IN CANADA FOR INDUSTRIAL WAR WORK

IN RECENT months the Employment Service of Canada has been conducting in the various Provinces a civilian registration of experienced skilled and semiskilled workers who would seem to be qualified for industrial employment in connection with the production of war materials. At the close of March 1940 approximately 27,000 skilled and semiskilled workers, including 1,200 women, had been registered. Of the total number of men and women, 4,700 were employed at the time they were registered. Of the 22,300 reported as unemployed when they registered, 20,750 were described as fully employable and 1,550 as partially employable.

According to the Canadian Labor Gazette of April 1940 (p. 318), the registration was still being carried on, but some persons who had made special applications with the employment offices had been placed in employment.



WARTIME OCCUPATIONAL CENSUS IN GREAT BRITAIN

A PARTIAL census to ascertain the number of workers employed, by occupation, in a limited number of industries was made in Great Britain as of the first week in April 1940.¹ This was the first attempt to obtain detailed information on the distribution of employment since the outbreak of war. The census was authorized by order of the Ministry of Supply under powers accorded by the terms of the Defense Regulations of 1939.

Coverage in the count was limited to factories and workshops of every size engaged in general, electrical, marine, and constructional engineering, motor-vehicle manufacturing, aircraft production, ship-building, and ship repairing. The census will show the approximate proportion of labor employed on Government work and on export and domestic production, as well as the ratios of skilled, semiskilled, and unskilled workers, and the relative number of men, apprentices, youths, boys, women, and girls.

Employers were required to make returns not later than April 10, under penalties for refusal. Quarterly recounts were contemplated for the future.

As the results might disclose information of value to the enemy, they will not be published. Among the advantages of the census to the British Government are the disclosure of the exact nature of the shortage and faulty distribution of skilled labor. The results were

¹ Federal Reserve System, Board of Governors, *Weekly Review of Periodicals*, May 7, 1940; and report of S. A. Greenwell, assistant military attaché, American Embassy, London.

also expected to be useful in facilitating systematic absorption of the reserve of unemployed workers and in placing orders so that all firms would secure their full share.



BRITISH EMERGENCY POWERS (DEFENSE) ACT OF 1940¹

IN ADOPTING the Emergency Powers (Defense) Act of 1940, the British Government assumed broader control over labor than was provided for under the emergency legislation enacted in 1939.² The effectiveness of the emergency legislation, which would otherwise have expired in August was prolonged. Provision was made for issuance of orders in council requiring persons to place themselves, their services, and their property at the disposal of His Majesty to the extent necessary to secure the public safety, to maintain public order, to facilitate efficient prosecution of the war, or to maintain supplies or services essential to the life of the community. Power was also granted to amend legislation passed since the beginning of the war.

In explaining the terms of the bill in the House of Commons, the Lord Privy Seal stated that it was an enabling bill under which regulations could be made. It should not be concluded that all of a sudden everybody would be ordered to do something different from what he was doing, but the essential thing was that each person should remain at his job until ordered otherwise. The Minister of Labor, he added, would be given power to direct any person to perform any services required of him, the essential thing in the emergency being to see that there should not be waste of the skilled labor which is available.

Profound changes in the national organization of industry were anticipated, since profit and loss were set aside and the Government undertook to regulate hours, wages, and conditions of labor, and freedom of enterprise and of personal occupation. The excess-profit tax of controlled industries was made 100 percent.

Insofar as labor is affected the Ministry of Labor was placed in control, as already stated, and, in cooperation with the Ministry of Agriculture, will prevent transference of workers from agriculture to industry, whenever necessary. Although women were not being utilized in industry to a large extent when the bill became law, expanded employment of women was expected. Remuneration, the Minister of Labor said, would be at the rate established for the job, no matter by whom it was performed. In determining rates of pay, the Lord Privy Seal gave assurances that a professional man asked to

¹ Sources: Great Britain, Parliament, House of Commons, Parliamentary Debates, May 22 and 23, 1940; U. S. Department of Commerce, Commerce Reports, June 15, 1940; and New York Times, May 23 and 26 and June 7, 1940.

² See Monthly Labor Review for January 1940 (p. 52) for a statement on the Emergency Powers (Defense) Act, 1939.

do professional work will receive the appropriate salary. Wages established under industrial agreements will be paid on work of the kind for which the wages were fixed. Wherever such agreements have not been arrived at, the normal rates paid by good employers will be observed.

The powers contained in the Control of Employment Act of 1939 are superseded by those under the emergency powers legislation. One order forbidding employers to advertise for employees without the consent of the Minister of Labor was issued under the 1939 law in April of this year.³ It covered employees in the building and civil-engineering contracting industries.

Shortly after enactment of the emergency powers law the Minister of Labor established a Labor Supply Board to mobilize the industrial manpower of Great Britain. Acceptance of arbitration decrees was made mandatory in all labor disputes.



FAMILY ALLOWANCES TO MEN IN ARMED FORCES OF NEW ZEALAND

THE Government of New Zealand has established rates of pay and allowances for the dependents of men in the armed forces other than the regular military service.

The pay for mobilized men, it is reported in Labor and Industrial Information (Geneva), April 1, 1940, ranges from 7s. to 9s.⁴ per day; from 10s. to 11s. for warrant and noncommissioned officers, and from 13s. to 25s. for commissioned officers.

Allowances for dependents of men of all ranks are fixed at 3s. per day for a wife or the guardian of a child or children under 16 years of age who have no mother; 1s. 6d. for each child under 16 years of age but for not over 5 children; and 1s. 6d. for a widowed mother who is dependent. Extra allowances are paid for those charged with certain special duties. Field allowances are fixed at 1s. 6d. for warrant and noncommissioned officers who rank above sergeants; and at 3s. to 5s. for commissioned officers.

The following amounts per week must be allotted by both officers and men to their dependents: Single men, 14s.; married men who have no children, £2; married men with 1 child, £2 15s.; with 2 children, £3 10s.; with 3 or more children, £4.

³ Ministry of Labor Gazette, London, April 1940.

⁴ Average exchange rate of New Zealand pound in January 1940—\$3.17; shilling—15.8 cents; penny—1.3 cents.

Labor Costs

UNIT LABOR COST IN 20 MANUFACTURING INDUSTRIES, 1919 TO 1939

By VICTOR PERLO, *U. S. Department of Commerce, and* WITT BOWDEN,
U. S. Bureau of Labor Statistics

CHANGES in labor cost per unit of output have been vitally affected in recent years both by changes in wage rates and by changes in man-hour output. Information relating to several important industries, including some of the industries connected closely with the armaments program, makes possible an indication of the trends in unit labor cost from the period of the World War to 1939.

Indexes of labor cost per unit of output for the years 1923, 1929, and 1935 in 25 manufacturing industries were published in a recent number of the *Monthly Labor Review*, based on Bureau of Labor Statistics indexes of pay rolls and National Research Project indexes of production.¹

For the purpose of obtaining a more up-to-date picture, it was necessary to carry forward the National Research Project production indexes, most of which end at 1935 or 1936. It was found practicable, for 20 of these industries, to extend the production indexes, using the same sources and methods as the National Research Project. Production indexes for 1937 were obtained for all 20 industries; indexes for 1938 were obtained for 18 of the industries; and indexes for 1939 were obtained for 13 industries. For most of the industries the indexes for 1938 and 1939 are subject to revision when 1939 census data become available.

Labor-cost indexes were then computed for the years 1936 to 1939, to show recent changes, and also for 1919, to make possible compari-

¹ U. S. Works Progress Administration. National Research Project. *Studies of the Labor Supply, Productivity, and Production*, Report No. S-1, pts. 1-3: *Production, Employment, and Productivity in 59 Manufacturing Industries, 1919-36*, by Harry Magdoff, Irving H. Siegel, and Milton B. Davis. Washington, 1939. This report is part of a series by the National Research Project, under the direction of David Weintraub, on *Reemployment Opportunities and Recent Changes in Industrial Techniques*.

The figures of unit labor cost referred to above are given in the *Monthly Labor Review*, December 1939 (pp. 1397-1404): *Employment and Production in Manufacturing Industries, 1919 to 1936*. (Reprinted as Serial No. R. 1057.)

The original use of the National Research Project indexes and the Bureau of Labor Statistics pay-roll indexes for estimating changes in unit labor cost was by Witt Bowden of the U. S. Bureau of Labor Statistics. The revisions and extensions of the National Research Project indexes of production to 1939 and their use in the present article were by Victor Perlo of the Industrial Economics Division, U. S. Department of Commerce.

sons of current labor costs with those which prevailed just after the World War. In addition, labor-cost indexes for 1933 were computed, to determine the situation at the bottom of the depression. The index numbers, with 1923 as 100, are shown in table 1 and in part are plotted in the accompanying chart. Percentage changes from 1935 to 1939 are given in table 2. Underlying pay-roll and production indexes are listed in table 3.

From 1919 to 1933, the prevailing trends in unit labor costs were downward. During most of the years between 1933 and 1938, there was an upward trend. This was reversed in 1939, when the median of the industries covered was about the same as in 1935.

Because of the present-day importance of production for defense, comparison of current labor costs with those of 1919, when industry was still largely under the influence of the World War, is especially significant. In each of the 17 industries for which labor-cost indexes could be computed, unit labor costs were markedly lower in 1939 (or the latest year available) than in 1919. For important defense industries the declines in labor cost over this period were as follows:

	Percent
Blast furnaces, steel works, and rolling mills.....	38
Nonferrous metals: Primary smelters and refineries..	30
Petroleum refining.....	57
Chemicals.....	50

Unit labor costs in 1919 were probably higher than in the 2 previous actual war years. Thus, the percentage declines in unit labor costs from 1917 and 1918 to 1939 may have been less pronounced than the declines listed above.

TABLE 1.—Indexes of Unit Labor Cost in 20 Manufacturing Industries, 1919–39

[1923=100.0]

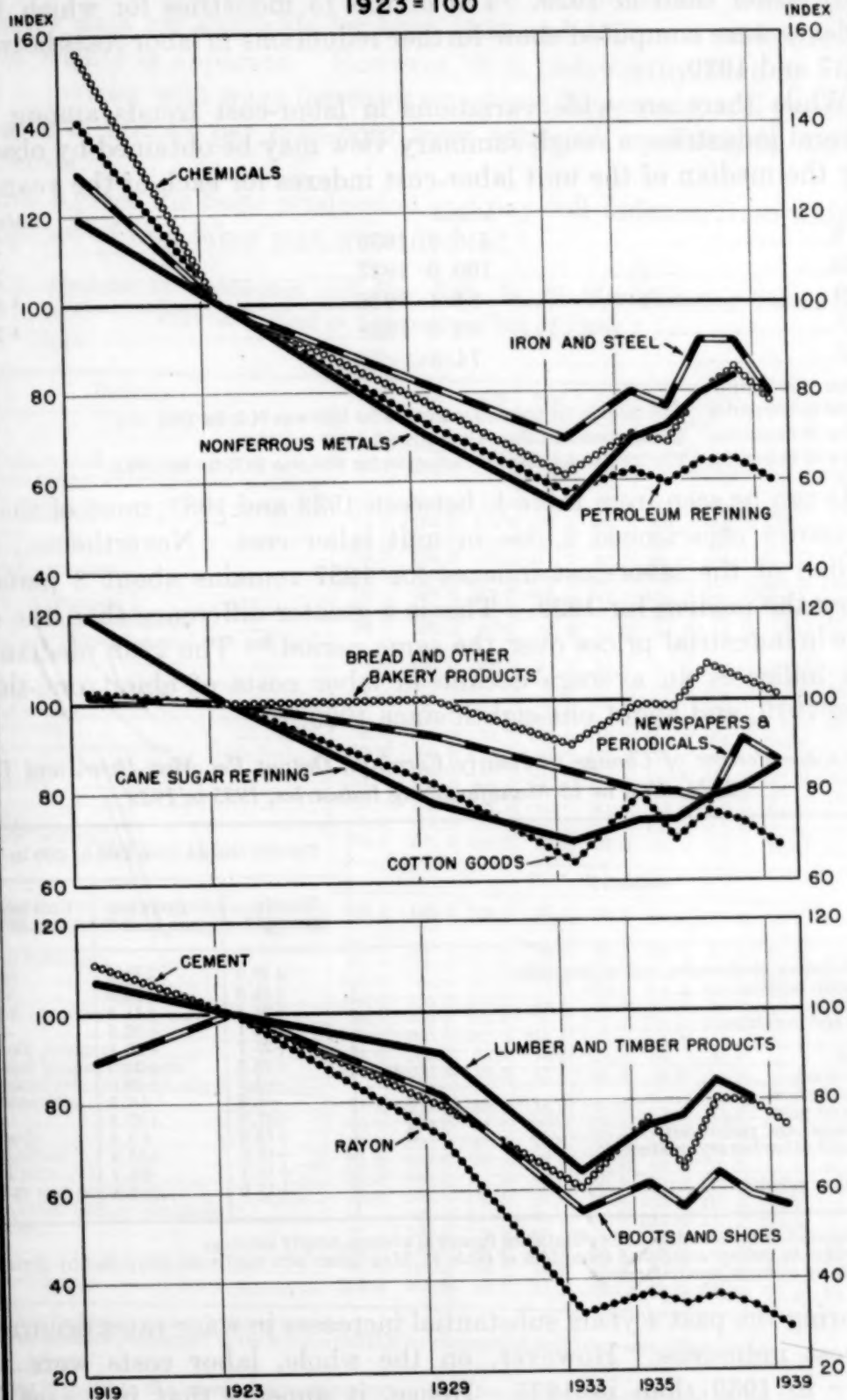
Industry	1919	1923	1929	1933	1935	1936	1937	1938	1939
Blast furnaces, steel works, and rolling mills..	129.2	100.0	81.8	69.3	79.9	76.6	91.5	91.3	79.6
Nonferrous metals: Primary smelters and refineries.....	119.1	100.0	70.5	54.1	69.5	72.6	79.5	83.2	(1)
Petroleum refining.....	140.7	100.0	73.0	57.5	62.2	59.7	64.5	64.6	60.0
Chemicals.....	156.1	100.0	77.7	61.2	70.5	68.6	79.8	85.3	77.8
Fertilizers.....	140.3	100.0	86.5	61.9	76.0	70.4	75.9	71.4	(1)
Paints and varnishes.....	108.5	100.0	96.7	90.2	84.6	79.9	90.0	94.7	92.0
Rayon.....	(1)	100.0	72.4	32.8	36.8	34.6	36.4	34.0	29.3
Planing-mill products.....	96.6	100.0	94.3	71.5	75.4	(1)	80.3	(1)	(1)
Lumber and timber products.....	107.2	100.0	90.8	64.0	74.2	76.7	84.5	80.2	(1)
Clay products (other than pottery) and non-clay refractories.....	98.3	100.0	90.1	63.2	81.1	81.3	89.5	91.0	(1)
Cement.....	111.3	100.0	79.3	60.5	76.1	64.9	80.4	79.6	74.4
Cotton goods.....	102.5	100.0	81.5	64.1	79.3	68.9	75.2	72.8	67.8
Boots and shoes.....	89.3	100.0	81.3	55.3	61.3	56.0	63.6	58.7	56.3
Paper and pulp.....	112.2	100.0	85.5	58.9	70.0	68.1	70.7	74.6	69.9
Newspapers and periodicals.....	101.5	100.0	92.2	83.8	79.9	79.4	77.4	91.3	86.7
Bread and other bakery products.....	(1)	100.0	100.2	89.9	99.0	98.7	108.0	104.5	101.0
Confectionery.....	(1)	100.0	85.2	60.6	59.7	57.2	63.1	(1)	(1)
Flour.....	110.9	100.0	85.0	67.2	80.2	79.2	86.4	83.4	82.6
Ice cream.....	86.6	100.0	83.7	67.2	58.3	50.2	49.2	50.4	(1)
Cane-sugar refining.....	119.3	100.0	77.1	68.7	73.2	73.5	78.2	80.7	85.2

¹ Not available.

² 1925.

UNIT LABOR COSTS IN SELECTED MANUFACTURING INDUSTRIES

1923 = 100



In 19 of the 20 industries studied, labor costs were lower in 1937 than in 1923. In 12 of these industries the reduction in labor costs exceeded 20 percent. In 13 of the 20 industries, labor costs in 1937 were lower than in 1929. Ten of the 13 industries for which 1939 indexes were computed show further reductions in labor costs between 1937 and 1939.

While there are wide variations in labor-cost trends among the several industries, a rough summary view may be obtained by observing the median of the unit labor-cost indexes for each of the years:

	Median		Median
1919.....	¹ 110.9	1936.....	² 70.4
1923.....	100.0	1937.....	77.8
1929.....	84.4	1938.....	³ 80.4
1933.....	63.6	1939.....	⁴ 74.4
1935.....	74.8		

¹ For 17 industries.

² For 19 industries. The median for these 19 industries for 1935 was 74.2; for 1937, 77.4.

³ For 18 industries. The median for these 18 industries for 1937 was 77.8.

⁴ For 13 industries. The median for these 13 industries for 1938 was 80.7; for 1937, 78.2.

As can be seen from table 1, between 1933 and 1937, most of the 20 industries experienced a rise in unit labor cost. Nevertheless, the median of the labor-cost indexes for 1937 remains about 8 percent below the median for 1929. This is a greater difference than the decline in industrial prices over the same period.² The 1939 median of 74.4 indicates an average decline in labor costs of about one-third since 1919, and about one-eighth since 1929.

TABLE 2.—Percent of Change in Hourly Earnings, Output Per Man-Hour, and Unit Labor Cost in 13 Manufacturing Industries, 1935 to 1939

Industry	Percent change from 1935 to 1939 in—		
	Hourly earnings ¹	Output per man-hour ²	Unit labor cost
Blast furnaces, steel works, and rolling mills.....	+27.0	+27.5	-0.4
Petroleum refining.....	+21.6	+26.0	-3.5
Chemicals.....	+23.1	+11.5	+10.4
Paints and varnishes.....	+20.1	+10.5	+8.8
Rayon.....	+25.7	+58.1	-20.5
Cement.....	+22.2	+25.2	-2.4
Cotton goods.....	+3.5	+20.9	-14.4
Boots and shoes.....	-1.8	+6.9	-8.1
Paper and pulp.....	+17.2	+17.3	-1.1
Newspapers and periodicals.....	+12.6	+3.9	+8.4
Bread and other bakery products.....	+16.3	+13.9	+2.1
Flour.....	+10.4	+7.2	+3.0
Cane-sugar refining.....	+12.0	-3.8	+16.4

¹ Computed from Bureau of Labor Statistics figures of average hourly earnings.

² Changes in output computed from data of table 3. Man-hours here used were computed by dividing pay rolls by average hourly earnings.

During the past 4 years substantial increases in wage rates occurred in most industries. However, on the whole, labor costs were no higher in 1939 than in 1935. Hence, it appears that increases in

² A complete analysis of labor costs would require much more information than is now available regarding other costs and the trends of prices, by industry as well as in the aggregate, and especially the prices of materials and finished products.

hourly wage rates were matched by increases in output per man-hour. Table 2 gives the percentage changes in hourly earnings, output per man-hour, and unit labor cost for the 13 industries for which the necessary data are available for both 1935 and 1939. A wide diversity of results is apparent. However, it is noteworthy that in 4 of the 6 industries with wage increases exceeding 20 percent, still greater increases in output per man-hour were achieved, resulting in lower labor costs.³

Table 3 gives the basic production and pay-roll indexes, from which the indexes of unit labor cost were derived.⁴

TABLE 3.—*Indexes of Production and Pay Rolls in 20 Manufacturing Industries, 1919–39,¹ Used in Computing Data of Table 1*

	[1923=100.0]								
Industry	1919	1923	1929	1933	1935	1936	1937	1938	1939
Production indexes									
Blast furnaces, steel works, and rolling mills	79.0	100.0	128.2	56.0	82.2	116.2	128.1	72.2	116.3
Nonferrous metals: Primary smelters and refineries	86.5	100.0	136.6	49.2	70.1	87.8	106.6	80.5	(2)
Petroleum refining	61.4	100.0	173.0	150.2	169.7	188.4	209.3	205.9	218.9
Chemicals	74.5	100.0	151.8	120.8	142.5	167.4	183.3	142.9	176.5
Fertilizers	110.5	100.0	126.3	71.7	88.0	100.3	123.4	113.8	(2)
Paints and varnishes	74.4	100.0	146.4	88.4	127.5	152.4	159.1	132.5	149.8
Rayon	(2)	100.0	333.3	635.0	742.7	824.7	967.7	813.0	1,067.7
Planing-mill products	71.4	100.0	92.6	27.4	41.9	(2)	63.1	(2)	(2)
Lumber and timber products	93.6	100.0	97.5	37.2	51.9	64.3	68.5	59.0	(2)
Clay products (other than pottery) and non-clay refractories	64.3	100.0	95.8	24.2	34.4	51.8	57.9	42.3	(2)
Cement	59.4	100.0	123.9	46.1	55.3	82.4	85.3	76.8	88.6
Cotton goods	85.5	100.0	100.4	85.4	75.4	97.7	105.0	83.5	104.4
Boots and shoes	96.1	100.0	109.2	102.7	112.4	122.5	120.2	115.6	125.3
Paper and pulp	79.8	100.0	133.7	111.0	125.9	142.8	164.0	136.8	160.3
Newspapers and periodicals	72.2	100.0	139.5	99.0	122.5	134.2	145.5	121.2	130.5
Bread and other bakery products	(2)	100.0	127.7	102.0	117.1	125.4	126.9	129.6	135.9
Confectionery	(2)	100.0	120.6	99.4	120.0	123.6	125.6	(2)	(2)
Flour	109.7	100.0	98.9	80.6	81.0	84.8	83.7	85.7	89.6
Ice cream	76.9	100.0	124.4	74.0	101.1	120.3	133.3	127.6	(2)
Cane-sugar refining	94.9	100.0	115.5	88.9	95.0	96.1	102.0	96.0	92.1
Pay-roll indexes									
Blast furnaces, steel works, and rolling mills	102.1	100.0	104.9	38.8	65.7	89.0	117.2	65.9	92.6
Nonferrous metals: Primary smelters and refineries	103.0	100.0	96.3	26.6	48.7	63.7	84.7	67.0	(2)
Petroleum refining	86.4	100.0	126.3	86.4	105.5	112.5	135.1	133.0	131.3
Chemicals	116.3	100.0	117.9	73.9	100.4	114.9	146.3	121.9	137.3
Fertilizers	155.0	100.0	109.3	44.4	66.9	70.6	93.7	81.3	(2)
Paints and varnishes	80.7	100.0	141.5	79.7	107.9	121.8	143.2	125.5	137.8
Rayon	(2)	100.0	241.2	208.4	273.6	285.5	352.4	276.1	312.6
Planing-mill products	69.0	100.0	87.3	19.6	31.6	(2)	50.7	(2)	(2)
Lumber and timber products	100.3	100.0	88.5	23.8	38.5	49.3	57.9	47.3	(2)
Clay products (other than pottery) and non-clay refractories	63.2	100.0	86.3	15.3	27.9	42.1	51.8	38.5	(2)
Cement	66.1	100.0	98.2	27.9	42.1	53.5	68.6	61.1	65.9
Cotton goods	87.6	100.0	81.8	54.7	59.8	67.3	79.0	60.8	70.8
Boots and shoes	85.8	100.0	88.8	56.8	68.9	68.6	76.5	67.9	70.5
Paper and pulp	89.5	100.0	114.3	65.4	88.1	97.2	115.9	102.0	112.1
Newspapers and periodicals	73.3	100.0	128.6	83.0	97.9	106.6	112.6	110.7	113.1
Bread and other bakery products	(2)	100.0	127.9	91.7	115.9	123.8	137.1	135.4	137.3
Confectionery	(2)	100.0	102.8	60.2	71.6	70.7	79.2	(2)	(2)
Flour	121.7	100.0	84.1	54.2	65.0	67.2	72.3	71.5	74.0
Ice cream	66.6	100.0	104.1	49.7	58.9	60.4	65.6	64.3	(2)
Cane-sugar refining	113.2	100.0	89.1	61.1	69.5	70.6	79.8	77.5	78.5

¹ For sources and methods, see footnote 1, p. 33.

² Not given because production index is not available for computing unit labor cost (see table 1).

³ 1925.

⁴ Attention is called to the interpretative discussion of the labor-cost indexes contained on pp. 1403–1404 of the Monthly Labor Review for December 1939.

⁵ Detailed information regarding the sources and methods of constructing the production indexes up to 1936 are available in the reference mentioned in footnote 1. Similar methods and sources were used for extending the indexes and for making slight revisions on the basis of later data, the revisions as well as extensions being incorporated in table 3.

Vacations With Pay

VACATIONS WITH PAY IN FINLAND

A LAW of April 21, 1939, provides for vacations with pay for workers, for the calendar year, as follows:¹ Five working days for uninterrupted service of not less than 6 months before September 1; 9 working days for not less than 1 year's service; and 12 working days for not less than 5 years' service. Holidays, Sundays, and church days are not deemed working days for the purpose of granting vacations.

In the case of agriculture or other seasonal industries the date of required service is reckoned to December 1.

Apprentices under 16 years of age, or when they reach 16 years of age in the calendar year in which the holidays are to be granted, shall be granted paid vacations of 6 and 12 days, respectively, if they have completed the required service of not less than 6 months and 1 year, respectively.

The paid holidays may be granted at a date fixed by the employer, either between May 2 and September 30 or between May 15 and September 15, giving notice of the date at least 2 weeks before the holidays.

The labor inspectors are to supervise the observance of the law. If an employer fails to grant a worker the paid annual holiday as provided by the law, he is liable to a fine and, on application of the employee, is compelled to pay the worker compensation in addition to the wages due for the period of the annual holiday.

The law became effective May 1, 1939.

VACATIONS WITH PAY IN FRANCE IN 1940

EMPLOYERS in France who were unable, before January 1, 1940, to give their workers or employees all the vacation due them in 1939, were required, by a decree issued November 10, 1939, to pay them an amount covering the lost leave.² A decree issued April 13, 1940, established regulations governing vacations during 1940.³ The report to the President of the Republic accompanying the decree stated

¹ International Labor Office (Geneva), Legislative Series, 1939—Fin. 1.

² See Monthly Labor Review, March 1940.

³ Journal Officiel (Paris), April 14, 1940.

that these regulations had been prepared with the object of maintaining, even during the war, the legislation on paid vacations, to which the working class is legitimately attached.

The decree provides that all workers who have been employed for at least 4 months in the same establishment during the 12 months since September 1, 1939, will be entitled during 1940 to leave with pay amounting to 1 day for each month's work, with a maximum vacation of 12 working days. Periods of work of 4 weeks or 24 days are considered as 1 month. The legal rest periods for women before and after confinement were considered as work periods.

In establishments working for the national defense the annual vacations may be suppressed or suspended by decision of the representative of the mobilizing minister, when production requirements necessitate such action, or in other classes of establishments by the Minister of Labor. The suppression of the vacation entitles the worker to a compensatory payment.

An annual vacation which does not exceed 6 working days should be continuous, subject to the right of wives of mobilized men, who have worked 4 months continuously in an establishment, to a holiday of 4 workdays when their husbands are on leave. Holidays of more than 6 workdays, subject to the same reservation, may be given by the employer in two or three periods, provided that one period comprises at least 6 workdays included between 2 days of weekly rest.

In establishments working for the national defense, decisions of the heads of enterprises which fix for different groups of workers the dates of their departure for their vacations, as well as the length of the holiday, must be made in agreement with the mobilizing minister's representative. Vacation periods are extended over the entire year and are not restricted to the summer months. In establishments working for the national defense, vacations cannot be given simultaneously to all the personnel unless authorized by the representative of the mobilizing minister.

The daily holiday rate to be paid by an enterprise must be equal to the average daily wage of the worker during the last two fortnights preceding the vacation, unless for that period the general hours of work have been less than the average effective since his last vacation, in which case he shall be paid one-twenty-fourth of his total pay during the months taken into consideration in fixing the duration of his vacation. In fixing the amount of the pay, account must be taken of additional advantages and payments in kind which he would not receive while on vacation.

When an employer breaks the employment contract of a worker having at least 4 months' service before he has had the leave which he could claim in 1940, he is entitled to compensatory pay, unless the termination of employment was due to the worker's fault. If the

employer belongs to a holiday fund, however, he must give the worker who fulfills the prescribed conditions a certificate showing his vacation rights, which will entitle him to compensation by the fund.

If a worker leaves an establishment because of mobilization, requisition, or special assignment, or by reason of the termination of the requisition or assignment—unless this is the result of a disciplinary measure—he is entitled to the vacation allowance based on his daily pay for work done since September 1, 1939.

When the vacation period provided for by custom, by collective agreement, or by arbitral decision, is longer than the legal vacation, the head of the establishment may allow the longer vacation if production requirements permit. In such case, the leave in excess of the legal limit may be made up under conditions prescribed by the law of November 12, 1938. However, no excess leave may be granted in establishments working for the national defense, without authorization by the representative of the mobilizing minister.

The conditions for application of the present holiday regulations to railroads and to the merchant marine will be fixed by a special decree.



LOW FARES FOR MEXICAN WORKERS ¹

THE National Railway Administration of Mexico offers special rates at 50 percent of the regular fares to all workers and public employees who wish to take vacation trips on the National Railways network. Beginning January 1, 1939, low fares were offered at certain seasons when most workers took their vacations, but now the vacation trip may be taken at any time of the year. The reduced fares apply also to 2 members of the worker's family traveling with him—2 women of any age, 2 males under 18 or over 55 years of age, or any combination of these groups.

The Mexican National Railways are owned by the Government but administered by the workers.

¹ Data are from Mexican Labor News (México, D. F.), February 1, 1940, and Industrial and Labor Information (Geneva), April 3, 1939.

Employment and Labor Conditions

FINDINGS OF THE INTERFAITH CONFERENCE ON UNEMPLOYMENT

After a searching discussion of the concern of religion with unemployment, the following problems were taken up at the Interfaith Conference on Unemployment which met in Washington, D. C., June 4-6, 1940: How much unemployment is there? Where can the unemployed be absorbed? What can industry and labor do to end unemployment?

Some of the other subjects on the agenda were: Effect of unemployment on race relations; agriculture's interest in full employment; taxation and the management of public and private credit in relation to reduction of unemployment; economic trends influencing employment; the nonpartisan legislative proposals of the Congressional Conference on Unemployment; and economic planning.

The convening agencies were the Industrial Division of the Federal Council of Churches of Christ in America, the Social Action Department of the National Catholic Welfare Conference, the Social Justice Commission of the Central Conference of American Rabbis, and the Social Justice Committee of the Rabbinical Assembly of America. The findings of the Conference are given below.

Unemployment is a dreadful scourge and a social sin. It is a major cause of war and poverty, and an indictment of our society. Yet most of us have been indifferent and irresponsible in our attitudes toward this most critical problem.

The moral effects of the continued unemployment of nine million or more workers are evident. Enforced idleness demoralizes personality, makes it impossible for families to live normal, healthy lives, and prevents their participation in community life. These conditions must now become the common concern of the nation. The religious bodies must supply the moral dynamic for changing them.

Unemployment must not be continually relieved—it must be abolished. It is the plain duty of the religious bodies to demand a thousand times more loudly than ever before that the necessary steps be taken to use our great resources and to work out procedures in accord with democratic principles.

Solutions cannot be found without individual and social sacrifice. The employed, the fortunate, must identify themselves with the unemployed, and be willing to make sacrifices in order to bring about the abolition of unemployment. Only high spiritual attitudes will bring justice. The moral will should be expressed effectively in terms of right social relations.

It is imperative that just social relations be attained, because economic desperation will lead many well-meaning citizens of all classes into great temptation.

When people are confused and embittered, not knowing where to turn, they seek scapegoats, thus arousing race hatreds. People haunted by insecurity are most likely to become the easy prey of ruthless leaders, including would-be dictators who make large promises but take away liberties. In these times of emotional stress it is doubly necessary to emphasize democratic procedures and rights.

Whatever may be the needs of national defense, stimulation of industrial activity through the production of arms will not provide a permanent method of abolishing unemployment. This has been declared by the many speakers mentioning the subject at this Conference. Indeed, some have warned that long and increasing production of armaments threatens the production of consumers' goods, and thereby lowers the general standard of living. It is clear that we must all search for sound methods that promise more constructive economic results. The religious bodies have a vital interest in what is socially constructive; in reconciliation and healing; in the arts of peace. Elimination of unemployment requires social thinking of a high order, and social collaboration to work out the plans and put them into effect.

To that end, there should be a continuing commission, composed of representatives of consumers, farmers, labor, finance, manufacturing, commerce, government, education, religion. We hereby call upon the national organizations in these various fields to come together to form such a commission. For enforceable and coordinated action by the organized social forces of the country, governmental leadership is necessary. Government, we strongly recommend, should call these organizations together for devising cooperative, democratic measures to solve the unemployment problem.

Religious bodies dare not escape their responsibility to educate, with the aid of informed laymen, in regard to the moral and social aspects of such questions as have been here discussed, including the kind and degree of taxation; the relative emphasis upon voluntary and upon governmental leadership; the role of cooperatives for purchasing, credit, marketing; the possibility of setting up democratic economic planning; the importance of preserving religious and civil liberties; the need for new social inventions to deal with new conditions.

These questions should be taken up in religious assemblies, should be considered by the religious press and study courses. They all have religious aspects and implications, and require study in an atmosphere which religious bodies are peculiarly prepared to supply.

We recommend that these findings and a summary of the addresses and discussions of the conference be sent not only to the convening groups and their constituencies, but also to all other religious bodies of the nation, with the request that they be given wide publicity.

We recommend that the findings and summary be also sent to the President, all members of Congress, and to leaders of social agencies, voluntary and governmental.

The report quoted above was submitted by the committee on findings, which was composed of the following members: Rt. Rev. Msgr. John A. Ryan, director, Social Action Department, National Catholic Welfare Conference, Washington, D. C.; Rev. R. A. McGowan, assistant director, Social Action Department, National Catholic Welfare Conference, Washington, D. C.; Rev. Carl P. Hensler, professor of sociology, Seton Hill College, Greensburg, Pa.; Mr. Wilbur La Roe, Jr., attorney, chairman, Committee on Civic Affairs, Washington Federation of Churches, Washington, D. C.; Rev. Cameron Hall, director, Department of Social Education and

Action, Presbyterian Church, Madison, Wis.; Rev. Benson Y. Landis, associate secretary, Department of Research and Education, Federal Council of the Churches of Christ in America, New York City; Rabbi Isidor B. Hoffman, chairman, Social Justice Committee, Rabbinical Assembly of America, New York City; Rabbi Edward L. Israel, chairman, Social Justice Commission, Central Conference of American Rabbis, Baltimore, Md.; Rabbi Ely Pilchik, Representative of the Hillel Foundation at University of Maryland, College Park, Md.; Rev. James Myers, industrial secretary, Federal Council of the Churches of Christ in America, New York City.



SOCIAL AND ECONOMIC CONDITION OF THE EGYPTIAN POPULATION

THE population problem in Egypt, and the social and economic condition of the Egyptian fellaheen, were the subject of two recent reports from the American Legation in Cairo.¹ It is said that one of the problems which is giving concern is growing pressure on the soil. As the population has been increasing for many years much more rapidly than has the cultivable area, the number of landless men is increasing, and it is necessary to find some solution of the problem if the standard of living, which is low among the mass of the population, is not to be further depressed.

An experiment has been undertaken by the acting president of the American University at Cairo, in cooperation with a committee of the Egyptian Association for Social Studies and various branches of the Egyptian Government, in the reconstruction of village life. Two villages—one a primitive village of about 300 families and one approximately twice that size and somewhat more advanced from a social and economic point of view—were selected for the experiment, which began in 1939. It was agreed by the committee that the changes in village life necessary to improve the health and welfare of the fellaheen should involve their cooperation in order to be effective, and that whatever changes are introduced should not destroy existing values. The first stage of the experiment consisted of the collection of data, including a census of the population, covering number, age distribution, civil status, education, religion, occupation, disabilities, and number of families and houses; vital statistics; finance, crops, taxes, trade, savings, debts; public security, crime, delinquency; justice, litigations. The second stage involves direct efforts for social betterment through the work of Egyptian social workers who have been assigned to the villages. These workers enter into the life of the villages and are said to have been successful already in creating and stimulating a desire

¹ Reports from Raymond A. Hare, Chargé d'Affaires ad interim, Cairo, Egypt.

for a higher standard of living on the part of the villagers, who are being taught the necessity for clean drinking water, clinics, hospitals, schools, and sanitation. A health survey is also being carried out by the Ministry of Public Health and the School of Medicine. An attempt is being made to combat the prevalent superstitions, particularly in regard to hygiene, which are responsible for much of the ill health and various contagions. This problem is being attacked by enlisting the help of the more intelligent villagers in the endeavor to solve specific problems. Eventually it is expected that general cooperation among the villagers may be attained through village meetings or councils which will resemble somewhat the New England town meeting. The germ at least of self-government may be planted, and with the growing demands of the people for social improvements, these needs may be satisfied through their mutual efforts.

The assistance given by the social workers in the field of hygiene will be for the improvement of wells and introduction of filter systems, better sanitary facilities, baths and laundries, and improvement in the diet of the population. Economic assistance will be directed toward improvement of crops and animal husbandry, development of home industries, and establishment of cooperative societies, and attention will be given to education and the development of recreation.

The basic problem of village life in Egypt is said to be poor health, the endemic diseases of bilharzia and ankylostomiasis, which have increased with the spread of irrigation, being of especial importance. Until health conditions are improved, it will be difficult, if not impossible, to increase labor productivity, and the recently created Ministry of Social Affairs is, therefore, taking great interest in the experiments being conducted in the two villages.

In a recent speech by the Director of the Cooperative Section of the Ministry, it was stated that the national economy of Egypt suffers considerably from the migration of the workers from the country to the cities, the extremely poor health of the fellaheen, and the undernourishment of the vast majority of the workers in both town and country, although no mention was made of the fact that the seriousness of these problems can hardly be appreciated unless they are viewed in the light of the rapid increase of the population in relation to the slow extension of the arable land. The economic condition of the people must be improved before there can be general social improvement, it was said, and it was suggested that the village cooperative movement should serve as a basis for a higher standard of living. The development of this movement, however, has been slow, as, after a lapse of 30 years since the introduction of the movement in Egypt, the cooperative membership is only 90,000 persons, while the annual turn-over of their business amounts to only 1,200,000 Egyptian pounds and the reserve fund to 85,000 Egyptian pounds.

In spite of the slow progress of the cooperative societies, however, their extension is generally favored by persons who are interested in, or responsible for, the improvement of village life in Egypt. At present the members of the societies who derive benefit from the cooperative movement are almost entirely the rich or well-to-do farmers, who are far less in need than the ordinary peasant of the credit and other facilities which the cooperatives should offer. The greatest obstacle to the expansion of the Egyptian cooperative movement is the lack of persons in the average village who are capable of establishing a cooperative which will offer the facilities which are most needed, namely, cheap credit for the purchase of seeds and fertilizer and well organized marketing of crops.



EMPLOYMENT CONDITIONS IN JAPAN

THE National General Mobilization Act of Japan, effective in 1939, regulating employment, wages, and hours, has within less than a year spread its influence over the principal industries of that country. The legislation was enacted to meet a demand for a quick change and the enlargement of the scope of existing labor laws and regulations. It was also thought that the measure would insure a steady supply of workers for the munition factories and for industries endeavoring to increase production capacity. The improvement of labor efficiency was another objective.

However, according to an article in a supplement ¹ to the *Oriental Economist*, Tokyo, April 1940, it is very doubtful whether this labor policy has operated satisfactorily for the industries or has had ameliorating effects on general economic conditions. For example, it is pointed out that labor turn-over has not declined as compared with the precontrol period, and that the efficiency of labor has recently become markedly low. The wage-control provisions, which vary in different establishments and industries, have largely contributed in bringing about this undesirable situation. The program for the development of new labor resources, which was embraced in the 1939 labor-mobilization plan, has met with many obstacles which have impeded the rapid progress of key industries.

One of the alleged causes for the failure of labor control to operate smoothly is that in the last 3 years, in the words of the article referred to, the industrial structure of the Empire "has had to undergo violent transformations." Furthermore, in the industries manufacturing war products, the volume of migrant workers, including newly recruited laborers without experience, has risen and increased the complications of labor-law administration. The casual laborers' pay has been rela-

¹ Trade and Industry, 1939-40.

tively higher than that of nontransient workers, which has tended to speed up labor migration. Within a given establishment a great deal of dissatisfaction has been caused in regard to wage scales and other labor-management problems.

The competition for labor is growing keener and keener, through more attractive offers to the workers, and labor turn-over is on the increase. The wage scale has risen continuously since the summer of 1937, and this in turn has pushed up commodity prices. In the judgment of the author of the report under review, "These illustrations go to show how difficult it is to make actual conditions conform to law." It seems to him that the voluntary cooperation of labor organizations toward the attainment of the goals of industrial administration is the best solution of the problem under discussion. In reply to the question as to whether existing labor unions should be expanded or whether the Industrial Patriotic Leagues should be strengthened, the author states that, as a matter of fact, the pertinent issue is whether labor organizations should be voluntary and independent. The number of Industrial Patriotic Leagues is now 23,000, with over 2,500,000 members.

The growth of the labor-union movement in Japan has never been along robust lines. But what with the effects of the Industrial Patriotic League drive and the social conditions obtaining in the country, the labor-union movement is placed in a precarious position.

Productivity of Labor and Industry

TECHNOLOGICAL CHANGES AND LABOR PRODUCTIVITY IN THE CEMENT INDUSTRY

THE amount of cement produced in the United States per wage earner employed in the industry rose from 1,810 barrels in 1904 to 3,190 barrels in 1919. After 1919 the course of hours of work can be traced approximately, and it is therefore possible to compute output per man-hour, which more than doubled between 1919 and 1938. These estimates, together with related facts about the cement industry, are given in a recent study, here reviewed, by the National Research Project of the Work Projects Administration.¹

The course of output per man-hour in the cement industry was upward during most of the years from 1919 to 1938. (See table 1.) The cause was primarily technological. Changes in the volume of production, however, had much to do with year-to-year fluctuations in man-hour output. In 1933 only about 28 percent of the capacity of the industry was utilized. A fall in production tends to increase overhead and in other ways to add to the amount of labor required per barrel. A contrary effect, however, arises from the tendency to shut down the least productive plants when there is a contraction of the volume of production.

TABLE 1.—*Indexes of Output Per Man-hour and Per Wage Earner in the Portland Cement Industry, 1919 to 1938*

[1920=100]

Year	Output per man-hour	Output per wage earner	Year	Output per man-hour	Output per wage earner
1919.....	96.9	100.1	1929.....	161.3	159.8
1920.....	100.0	100.0	1930.....	168.1	161.3
1921.....	115.1	116.9	1931.....	192.7	169.3
1922.....	127.1	107.5	1932.....	187.6	141.2
1923.....	124.8	122.6	1933.....	189.4	125.1
1924.....	127.9	125.0	1934.....	193.4	118.4
1925.....	138.5	130.5	1935.....	181.8	114.8
1926.....	140.1	136.4	1936.....	206.6	154.2
1927.....	145.6	147.7	1937.....	195.7	138.8
1928.....	152.2	160.5	1938.....	205.3	137.7

¹ U. S. Work Projects Administration. National Research Project. Studies in Equipment Changes and Industrial Techniques, Report No. M-3: Mechanization in the Cement Industry, by George Perazich, S. Theodore Woal, and Herbert Schimmel. Washington, 1939. This report is one of a series by the National Research Project, under the direction of David Weintraub, on Reemployment Opportunities and Recent Changes in Industrial Techniques. A study of the cement industry from a different point of view was published in the Monthly Labor Review of March 1936: Labor Requirements in Cement Production, by Bernard H. Topkis.

The effect of changes in the extent of utilization of facilities in the individual plants on the number of man-hours required per barrel ² is so great that when only 60 percent of the capacity is utilized, about one-fifth more labor is required for the production of a barrel of cement than when full capacity is utilized. (See table 2.)

TABLE 2.—Average Effect of Reduced Capacity Utilization on Unit Labor Requirements of Individual Cement Plants

Percentage of practicably obtainable capacity utilized	Man-hours required per unit of output
100.0.....	100.0
80.0.....	108.6
60.0.....	120.8
40.0.....	140.4
20.0.....	181.4

In most industries, measurable units of production undergo qualitative changes over a period of years. In addition, there has been a tendency toward elaboration of products and utilization of byproducts and in general an increase in production in forms not measurable by standardized units of production. The cement industry has had a relatively slight development of products other than cement itself, but the quality of cement has undergone significant changes, notably as to fineness and strength. (See table 3.)

TABLE 3.—Changes in Fineness and Strength of Standard Portland Cement, 1916 to 1935

Period	Fineness ¹	Compressive strength ² (pounds per square inch)		
		7 days	28 days	6 months
1916-20.....	81.5	1,460	2,900	4,430
1921-25.....	81.7	1,840	3,350	5,050
1926-30.....	86.6	2,660	4,270	5,930
1931-35.....	92.7	3,390	5,040	6,560

¹ Percentage passing through 200-mesh-per-inch sieve.

² 6 x 12 inch cylinders, 1-5 mix w/c, 0.76 sand and gravel.

In the study here reviewed, the nature and significance of the changes in quality are thus described:

Improvements in quality have taken the form of increased strength and more rapid hardening of standard portland cements and the development of a variety of special portland cements embodying high-early-strength, quick-set, waterproof, color, low-heat, or other characteristics. The chief economic significance of these improvements lies in the fact that a barrel of present-day cement, by virtue of improved qualities and special properties, has much more cementing capacity and a wider field of application than an equal amount of cement which was produced two decades ago. The measures of output per wage earner and per man-hour therefore tend to underestimate the actual rise in labor productivity.

² That is, the reciprocal of output per man-hour.

The cement industry, although it has undergone a relatively high degree of modernization, still retains plants with a wide range in degree of modernization and of productive efficiency. As a result, labor productivity has varied widely from plant to plant. Information for the year 1935 indicates that in wet-process plants the number of man-hours per 100 barrels ranged from 55 in plants antedating 1906 to 41 in plants originating from 1926 to 1935. In the dry-process plants the corresponding range was much greater—from 54 man-hours in plants antedating 1906 to 33 hours in plants originating from 1926 to 1935. If the more advanced techniques already in use were extended to the entire industry, the effect would be a further significant rise in labor productivity.

There was a large reduction in the amount of labor required per unit of production between 1919 and 1934 in all departments of the cement industry. The reduction in quarrying was 57.7 percent; in processing, 49.2 percent; in maintainance (including yard, shop, and repair gang), 62.2 percent; in mill overhead (including mill office, store-room, laboratory, superintendents and foremen, watchmen, and miscellaneous labor), 28.3 percent; and in shipping, 49.6 percent. In the various subdivisions of the processing department the reductions ranged from 19.3 to 59.5 percent. In all departments combined the reduction was 51.7.

The nature of the technological changes in the industry, the variations in demand for cement, and the effects of technology and volume of production on opportunities for employment are summarized as follows in the preface to the study here reviewed:

The almost sixfold increase in cement production during the first quarter of this century was in part the cause and in part the result of the transformation of the cement-manufacturing processes from manual operation to a high degree of mechanization. The rotary kiln, which came into wide use after 1900, markedly reduced labor costs of cement burning. As this kiln removed one "bottleneck" in the production process, it created others, and the pressure of the growing demand for cement necessitated the eventual mechanization of all departments. In the quarry, hand loading was replaced by power shovels, and for transportation, wheelbarrows gave way to industrial locomotives. With large shovels capable of handling big pieces of rock, it became necessary to increase the size of crushers and to mechanize the intraplant handling of raw materials. The increased volume of product induced the mechanization of the packing and handling of finished cement. The result was that in the period 1904-19 output per worker increased 75 percent.

During the twenties the demand for cement continued to grow. Between 1921 and 1929, 51 new plants were built and existing plants replaced much of their equipment with more efficient and larger units. The productive capacity of the industry was almost doubled. This rapid expansion called for large investments in capital goods—shovels and cranes, crushers, grinders, kilns, and buildings. Although the basic processes and equipment now in use were well established by 1920, labor productivity continued to increase after 1920 as the new and more efficient processes were more widely utilized, as new plants, using the most up-to-

date equipment, were built, and as many minor improvements were made on the old equipment. In 1928 output per man-hour was 52 percent higher than in 1920.

In 1928 cement output reached its peak; by 1933 only about one-third as much was being produced. Despite the low level of production, however, output per man-hour in 1933 was almost 25 percent higher than in 1928. The continued rise of productivity in the face of declining production was accomplished in part through the diversion of production to the most efficient plants. Because nearly one-half of the total capacity of the industry is controlled by a few large corporations, each of which owns a large number of plants, it was often possible to allocate orders to the more efficient plants so that high labor productivity was maintained in spite of a low volume of output. Another factor in the continued rise of productivity was the continuation of improvements directed primarily at labor and fuel economies. These took the form, largely, of installations of auxiliary equipment which required little or no plant construction and involved relatively small capital outlays. They were, however, effective in reducing production costs and improving the product. During 1930-36 sales of such equipment were $3\frac{1}{2}$ times as high as in 1920-24, whereas sales of major operating units were one-third lower. In contrast to the economic forces which underlay this industry's rising productivity of the first three decades, the increasing man-hour productivity of the thirties was not accompanied either by a growing demand for cement which would tend to offset the declining labor requirements per unit of product or by a growth in investment which would tend to create employment opportunities in other industries.



LABOR PRODUCTIVITY AND EMPLOYMENT IN COPPER MINING

THE employment of wage earners in copper mines attained its maximum in 1917, when more than 61,000 workers were employed. This number was not materially larger than the number in 1913, before the outbreak of the World War, when more than 56,000 were employed. The extreme variability of employment in copper mining is indicated by the decline of number of workers to about 18,000 in 1921, a year of business recession, and to only about 7,000 in the depression year of 1933. Employment was affected also by technological changes and the reduction of the amount of labor per unit produced. Although the production of ore as measured by the amount of recoverable copper was greater in 1929 than in 1917, the number of workers in 1929 was only 37,000, in contrast with 61,000 in 1917. These and related facts about copper mining are presented in a recent study by the National Research Project of the Work Projects Administration.¹

Records of the copper-mining industry make possible estimates of production, employment, hours of work, and productivity, extending back to the period before the last World War. Some of the more important series of statistics in these fields are summarized in the accompanying table.

¹ U. S. Work Projects Administration. National Research Project. Mineral Technology and Output Per Man Studies, Report No. E-12: Technology, Employment, and Output Per Man in Copper Mining, by Y. S. Leong, Emil Erdreich, J. C. Burritt, O. E. Kiessling, C. E. Nighman, and George C. Heikes. Washington, 1940. This report is one of a series by the National Research Project, under the direction of David Weintraub, on Reemployment Opportunities and Recent Changes in Industrial Techniques.

Production is directly in the form of ore, but the ultimate measure of production is the copper itself. The productivity of labor may be measured in terms either of the amount of ore produced or of the amount of copper recoverable from the ore. The general trend in each case has been sharply upward, but there are important differences. The output of copper ore and tailings per man-shift almost quadrupled between 1880 and 1911, rising from 0.556 to 2.177 short tons, and during the same period the man-shift output of copper recoverable increased about two and one-half times—from 30.974 to 79.505 pounds. Beginning in 1911, estimates of man-hours are available, making possible estimates of output per man-hour. The man-hour output of ore and tailings increased 305.9 percent from 1911 to 1936, with recessions during periods of sharply curtailed production, as in 1919 and 1921 and from 1932 to 1934. The man-hour output of copper recoverable increased 246.9 percent from 1911 to 1936, with slight recessions in certain years, which were not always years of declining total production.

*Production, Employment, and Labor Productivity in Copper Mining, 1880-1936*¹

Year	Production		Employment		Output per man-hour of—	
	Copper ore and tailings, sold or treated (short tons)	Copper recoverable (pounds)	Average number of wage earners	Man-hours	Copper ore and tailings (short tons)	Copper recoverable (pounds)
1880.....	1,007,490	56,115,454	6,039	(2)	(2)	(2)
1889.....	3,322,742	220,569,438	9,750	(2)	(2)	(2)
1902.....	11,780,064	625,004,529	23,344	(2)	(2)	(2)
1911.....	29,988,235	1,095,131,104	44,693	110,194,600	0.272	9.938
1912.....	35,656,414	1,215,956,054	51,776	126,650,000	.282	9.601
1913.....	36,336,682	1,213,247,830	56,139	138,954,128	.262	8.731
1914.....	35,175,541	1,127,258,546	44,686	102,760,464	.342	10.970
1915.....	43,404,182	1,453,912,379	47,174	113,691,200	.382	21.788
1916.....	57,863,365	1,969,403,226	61,228	151,457,136	.382	13.003
1917.....	59,213,237	1,866,079,144	61,275	152,684,504	.388	12.222
1918.....	63,004,076	1,884,054,874	59,447	152,833,424	.412	12.328
1919.....	37,037,281	1,191,292,206	39,327	94,851,928	.390	12.559
1920.....	38,143,870	1,201,686,812	35,254	89,456,952	.426	13.433
1921.....	13,396,382	455,707,733	18,300	35,690,368	.375	12.768
1922.....	26,893,247	947,299,105	25,739	60,039,864	.448	15.778
1923.....	45,544,558	1,449,780,217	32,477	82,451,728	.552	17.583
1924.....	49,272,382	1,585,020,296	32,477	81,821,160	.602	19.372
1925.....	53,195,376	1,650,291,482	33,266	83,366,424	.638	19.796
1926.....	57,280,775	1,690,042,707	32,723	84,095,792	.681	20.097
1927.....	56,794,178	1,615,927,676	30,724	77,002,536	.738	20.985
1928.....	62,097,903	1,774,119,686	30,561	79,205,176	.784	22.399
1929.....	68,421,853	1,961,560,104	37,147	95,869,696	.714	20.461
1930.....	47,381,509	1,385,168,759	27,692	66,001,896	.718	20.987
1931.....	34,248,203	1,042,531,163	19,687	41,019,314	.835	25.416
1932.....	12,320,194	464,856,952	9,555	18,608,421	.662	24.981
1933.....	8,387,612	368,224,716	6,976	13,471,547	.623	27.334
1934.....	11,723,638	457,646,425	8,084	14,726,617	.796	31.076
1935.....	19,112,054	737,777,584	10,188	22,293,255	.857	33.094
1936.....	38,514,245	1,203,201,887	14,102	34,900,287	1.104	34.475

¹ Compiled from National Research Project Report No. E-12, which contains references to sources and discussions of the approximate nature of much of the data. For example, if employment in mills and ore-dressing establishments as well as in mining could be included, the figures of labor productivity would show a significantly smaller increase.

² Not available.

Thus, the causes of variations in man-hour output are not the same when output is measured in ore produced as when it is measured in copper recoverable from the ore. For example, when the demand for copper falls off sharply, the production of ore is more largely restricted to the richer grades, and these require more mining labor per ton of ore but less mining, milling, and smelting labor per ton of copper recoverable from the ore, as is explained below.

Technological changes have been the main causes of rising labor productivity. These changes are summarized as follows:

During the past half century, mining methods have undergone some significant changes that have contributed to increasing the output per worker and to counteracting the growth in physical difficulties. It may be instructive to point out, before entering into a discussion of the improvements in methods, that selection of a basic mining method is largely conditioned by the nature of the deposit. Copper ores may be classified roughly into two general types—porphyry or disseminated, and vein or lode. Porphyries are large bodies of low-grade ores in which the copper minerals are disseminated relatively uniformly throughout the mass. Copper-vein deposits are tabular masses, relatively thin in comparison to their longitudinal extent, in which the copper minerals are contained principally in veins or fissures in the rock. Porphyry deposits which occur near the surface are mined by the open-cut method; those at greater depth are mined by underground-caving methods. Vein deposits, as a rule, are exploited by underground methods.

The introduction of the open-cut and undercut block-caving methods in the twentieth century for exploiting porphyry deposits has been the most important event in the history of copper mining. It has permitted the mining of large bodies of low-grade ores hitherto regarded as non-ores and consequently has greatly augmented the copper reserves of the country. As these two methods are more productive than any of the others, the increase in the volume of production by open-cut mining and block caving has been the most influential factor in raising the output per worker in the copper-mining industry. The modern method of open-cut mining with power shovels was borrowed from the iron-mining industry, where it had been in use since the eighties. The development of modern, undercut, block-caving methods, however, is one of the major contributions of the copper-mining industry.

Improvements in mining methods as applied to underground-vein mines have consisted mainly of modifying existing techniques or adopting the advanced practices developed in other mining industries. For example, mining methods have been altered so as to take fuller advantage of the force of gravity. In some systems gravity is relied upon to crush the ore and convey it to a point where it is loaded into cars. In others it is utilized to transport the broken ore to chutes or bins and to fill workings from which the ore has been removed with waste material. Another instance in point is the adoption of the retreating system of mining in place of the advancing system, whereby a considerable saving in maintenance labor and expense has been effected.

Changes in methods of ore dressing after the ore is mined have increased the productivity of mining labor by making profitable the processing of ores that are of lower grade but more easily mined; but the processing of the lower-grade ores has tended to reduce the productivity of labor in mills and ore-dressing plants. Before 1902, the

ore was of such high grade as to require little milling or dressing. If all labor (mill as well as mining labor) could be included in the computation of labor productivity (see the accompanying table), the average output of mining and mill labor combined would be significantly smaller after the shift to low-grade ores than for mining labor alone.

The shifts in location of the copper-mining industry have been a vitally important feature of the industry. At one time, the Lake Superior region produced about four-fifths of the total output of the country. Between 1887 and 1907 the Montana area produced more copper than the Michigan deposits of the Lake Superior area. In 1907, Arizona supplanted Montana as the principal producing area, and important workings were developed also in Utah, Nevada, New Mexico, and Alaska.

Shifts in the location of the industry have been accompanied by serious economic and social problems. Between 1910 and 1930, the population of two copper-mining counties in the Lake Superior region declined almost 40 percent, and it was estimated that in 1936 as many as 3,000 copper miners and their families were stranded in these two counties alone, with little opportunity for reemployment.

The study here reviewed concludes with a discussion of the future outlook for copper mining.

The outlook for increased employment in copper mining, as in most mineral industries, is not bright. Intensification of the European war would be expected to increase our copper exports, and this country's armament program will call for an increased amount of copper. Output for other than armament purposes is not expected to be much above the 1936-37 level in the next 2 or 3 years. Over a 10-year period, however, the growth of population, the development of new uses for copper, and further growth of the electrical industries (which now account for about one-half of domestic consumption) point to some increase in copper production. However, productivity appears certain to increase further with continued adoption of improved techniques and with continuation of the shift in production to deposits having a higher output per man-hour.



TECHNOLOGY, PRODUCTIVITY, AND EMPLOYMENT IN THE LUMBER INDUSTRY

THE lumber industry has some of the characteristics of the extractive industries. Like these industries, it has been marked by regional shifts, by stranded populations in depleted areas, by utilization of progressively less accessible or less desirable resources, and by declining competitive power in relation to industries producing alternative materials. The prevailing methods of lumbering in the United States have accounted largely for progressive depletion, as in the mining industries. Forest resources, however, unlike mineral resources, are

renewable under appropriate management, and this fact has given rise to increasing emphasis on the possibility of sustained-yield lumbering. These features of the history of lumbering in the United States are emphasized in a recent study by the National Research Project of the Work Projects Administration.¹

Timber Depletion and Methods of Lumbering

The lumber industry is characterized by great diversity in types of timber resources, types of products, and uses made of the products of the industry. Regional differences are so great as to give to the industry in the several main areas distinctive features both economic and technological. As long as abundant timber stands of high quality were readily accessible, technological changes were designed merely to obtain timber products with a minimum of effort. During the second half of the nineteenth century, there was an extremely rapid expansion of demand for lumber and forest products, with no significant pressure being exerted for conservation of resources. As a result, the methods used were designed primarily to cut over completely and liquidate forest holdings in a given location, exhaustion in one locality being followed by removal to new stands and a repetition of the process. Under these circumstances technological improvements usually found direct expression in a rise in labor productivity. The more recent history of the industry has been characterized increasingly by depletion of resources and at the same time by declining demand and increasing intensity of competition from other industries. Technological changes in recent decades have therefore been introduced in considerable part for the purpose of counteracting the forces that tended to increase production costs and the amount of labor required per unit of output.

There have been two general methods of adjustment to timber depletion. One of these has been an improvement in techniques for exploiting the less desirable stands of timber with the same or a smaller expenditure of labor per unit of output. The other method has been a shift of production to smaller mills such as could be moved more readily to smaller and more remote stands of timber at comparatively small cost. Since 1920 the outstanding technological change has been the adaptation of tractors, trucks, and light cable yarders to logging operations. This type of equipment has made it possible to cut scattered stands and concentrate the logs at the mills at reduced cost.

¹ U. S. Work Projects Administration. National Research Project. Studies in Equipment Changes and Industrial Techniques, Report No. M-5: Mechanization in the Lumber Industry—A Study of Technology in Relation to Resources and Employment Opportunity, by Alfred J. Van Tassel, with the assistance of David W. Bluestone. Washington, 1940. This report is one of a series by the National Research Project under the direction of David Weintraub, on Reemployment Opportunities and Recent Changes in Industrial Techniques. A study of the lumber industry from a somewhat different point of view was published in the Monthly Labor Review of May 1937, entitled, "Labor Requirements in Lumber Production," by Bernard H. Topkis (reprinted as Serial No. R. 529).

The mills themselves have undergone extensive change through the use of mechanical handling equipment, the refinement and increased speed of operation of sawmill and planing-mill machinery, and the shift to electric power. These technological changes have been carried on most extensively in the Pacific Coast region. In the South, the outstanding change in method has been a shift toward smaller mills for operating closer to the timber and for processing smaller stands of timber than can be handled economically by large stationary mills. The authors of the study here reviewed express the opinion that the shift to smaller mills is only a temporary adjustment to increased difficulties and is to be regarded as a symptom rather than a solution of the problems created by timber depletion.

National and Regional Employment

In 1929, the average number of wage earners employed in the lumber and timber products industry was 419,084. Salaried workers averaged 21,714. In the same year about 107,000 wage earners and salaried workers were employed in the planing-mill products industry and probably about 70,000 in the railroad transportation of lumber. The wholesale and retail distribution of lumber gave employment to about 177,000 workers. Thus, the total employment in lumbering and closely allied employments in 1929 was about 800,000. In addition, considerable numbers were employed in the manufacture of the various kinds of equipment used and in the transportation of timber products by water. It is to be noted also that the pulp and paper industries are not included in these estimates.

The employment of wage earners in the lumber and timber products industry was approximately the same in 1929 as in 1899, but the extensive reduction in hours of work was accompanied by a reduction in total man-hours. Between the years 1899 and 1937, the largest amount of employment was in 1909, when the number of wage earners in the lumber and timber products industry (not including planing-mill products and allied employments) was about 547,000 in contrast to the 419,000 employed in 1929. The peak of building activity in the twenties came before 1929, and there was a decline of employment in the lumber and timber products industry from 496,000 in 1923 to 419,000 in 1929. Between 1929 and 1933, employment in lumbering suffered much more severely than employment in manufacturing as a whole. In 1937, employment in lumbering was about 23 percent lower than in 1929, whereas employment in all manufacturing combined was somewhat larger in 1937 than in 1929. (See table 1.)

TABLE 1.—*Employment in the Lumber and Timber-Products Industry, by Region, 1899–1937*¹

Year	Total	Pacific States	Rocky Mountain States	Southern States	Lake States	Central States	North-eastern States	Other States
1899.....	413,257	36,045	6,012	142,578	94,000	66,119	64,758	3,745
1904.....	404,563	48,488	6,636	160,007	72,791	61,998	52,108	2,530
1909.....	² 547,175	70,847	12,541	262,473	69,420	73,297	57,342	1,255
1914.....	479,786	64,377	12,240	235,050	63,243	59,070	45,352	454
1919.....	480,945	93,234	15,507	238,053	49,320	47,197	35,598	2,036
1921.....	364,247	75,161	11,735	183,242	35,872	30,298	27,256	683
1923.....	495,932	122,452	19,658	244,015	44,740	38,087	25,881	1,099
1925.....	467,090	115,904	20,601	227,588	45,503	34,420	21,931	1,143
1927.....	413,946	110,976	18,120	201,153	35,375	30,185	16,303	1,204
1929.....	419,084	115,224	20,443	202,324	30,539	32,858	16,177	1,519
1931.....	196,647	60,295	9,180	91,085	14,423	13,174	7,759	731
1933.....	189,369	60,014	6,811	90,035	11,693	13,091	7,344	381
1935.....	255,230	77,724	11,391	119,440	18,101	18,343	9,512	719
1937.....	323,928	102,632	15,973	148,850	20,130	22,808	12,833	702
Percent:								
1899.....	100.0	8.7	1.5	34.5	22.7	16.0	15.7	0.9
1909.....	100.0	12.9	2.3	48.0	12.7	13.4	10.5	.2
1919.....	100.0	19.4	3.2	49.5	10.3	9.8	7.4	.4
1929.....	100.0	27.5	4.9	48.3	7.3	7.8	3.9	.3
1937.....	100.0	31.7	4.9	46.0	6.2	7.0	4.0	.2

¹ WPA report (see footnote 1, p. 54). Figures were compiled from the Census of Manufactures. State groupings are those of the Census of Manufactures.

² A revised figure of 547,178 was published in the 1929 Census of Manufactures; the figure shown in this table was obtained from the Census of Manufactures for 1909, which presented the regional distribution of employment.

Changes in number of wage earners are especially significant when the principal lumbering regions are considered separately. (See table 1.) From 1899 to 1937 the Pacific States made important relative gains in employment, their part of the total in 1899 being 8.7 percent, and in 1937, 31.7 percent. The Southern States made sharp comparative gains between 1899 and 1909, the proportion rising from 34.5 to 48.0 percent. There was no marked change in the South's share of employment between 1909 and 1929, the proportion in 1929 being 48.3 percent, but there was a decline by 1937 to 46.0 percent. The Lake States, the Central States, and the Northeastern States all experienced sharp declines in their shares of employment.

Problems of Shifting and Declining Employment

The gravity of shifts in employment in lumbering can be realized only by going beyond the statistics of employment and noting the conditions prevailing in the stranded populations of cut-over areas. Such conditions are particularly grave in areas where forest industries have formed the larger part of the local economy. Some of these conditions are described in the National Research Project study here reviewed:

The community decadence associated with cut-over areas is familiar. Abandoned towns and railroads are the more dramatic aspects of this phenomenon. These features, however, tend to divert attention from the existence of a considerable residual population which has attempted to make a transition from lum-

bering to some other means of livelihood and has failed. As a result, such areas frequently present particularly acute relief problems. Superficially the relief problem in such areas appears to be an agricultural one, but closer study reveals that it is frequently traceable in large measure to loss of income from the lumber industry.

In 1935 the Federal Emergency Relief Administration conducted studies in sample counties of six rural areas having high relief loads. These areas contained 36 percent of the Nation's rural population and approximately one-half of the rural families receiving direct or work relief from governmental sources. The Appalachian-Ozark and Lake States cut-over regions, which represented two of the six problem areas, contain much cut-over forest land. Thirty-two percent of the families in the counties surveyed in the Lake States cut-over area received relief in June 1934; the corresponding figure for the Appalachian-Ozark region was 22 percent. The average rate for the United States at that time was about 15 percent. In the Appalachian-Ozark region 39 percent and in the Lake States cut-over area 78 percent of the heads of families who were receiving relief were usually engaged in nonagricultural occupations. Many of those who considered their usual occupation to be farming were receiving relief because of the loss of supplementary employment. The need for relief arose in the Lake States cut-over area mainly because of the loss of employment in mining and lumbering, which was accompanied by the development of small-scale farming on submarginal land. The relief households in the Appalachian-Ozark area had depended largely on subsistence farming with supplementary employment for cash income. Loss of supplementary employment in the lumber industry was one of the major reasons for relief in this region.² A later study of these same two areas likewise concluded that the loss of supplementary employment in industry, particularly lumbering and mining, was the fundamental cause of what appeared to be an agricultural relief problem.³

A study of four Appalachian counties⁴ indicates the course which is likely to be followed by the population remaining in a timber-exhausted area. Marketable timber was the greatest natural resource of these four counties until the well-established lumber industry had exhausted most of the timber supply by the early 1930's. Between 1930 and 1935 the percentage increase in the farm population of these four counties varied from 14 to 49 percent without a proportional increase in farm acreage, indicating that many of the workers released by the lumber industry had turned to farming. The inadequacy of farm income in these counties is shown by the fact that in 1934 from 23 to 41 percent of the farm operators in each of these counties worked for pay at occupations not connected with their farms. With the onslaught of the depression, income from farming and from what was left of the lumber industry soon collapsed and relief rates soared. At various times between April 1933 and December 1935 the following percentages of the populations in four counties were receiving relief: 86 percent, 63 percent, 15 percent, and 32 percent.

The effects of depletion and the shifting of lumbering areas in the Northwest, where, in general, employment has tended to increase, may be illustrated by the experience of three counties in eastern Washing-

² Beck, P. G., and Forster, M. C.: *Six Rural Problem Areas, Relief—Resources—Rehabilitation* (Federal Emergency Relief Administration, Division of Research, Statistics, and Finance, Research Section, Research Monograph No. 1, 1935), pp. 1, 2, 27, 120.

³ Asch, Berta, and Mangus, A. R.: *Farmers on Relief and Rehabilitation* (Works Progress Administration, Division of Social Research, Research Monograph No. VIII, 1937), pp. 54-55.

⁴ Dodson, L. S.: *Living Conditions and Population Migration in Four Appalachian Counties* (U. S. Department of Agriculture, Farm Security Administration in cooperation with Bureau of Agricultural Economics, Social Research Report No. III, October 1937), pp. 1, 3, 145.

ton and northern Idaho. These counties—Boundary and Bonner Counties in Idaho, and Pend Oreille County in Washington—developed the lumbering industry rapidly after 1900, but the peak of expansion was reached in 1910. In 1920, two-thirds of their population of about 24,000 depended on the forest industries. Between 1911 and 1920, 12 of the 20 mills established during the previous 10 years ceased operations and during the twenties 4 other mills were closed down. Three additional large mills were forced out of business in these counties between 1930 and 1934. In a typical lumbering town of the region, employment in forest industries declined from 3,500 in 1924 to 100 in 1934. In that year, more than 3,500 people in the three counties were supported by employment in Civilian Conservation Corps camps and in work provided by the United States Forest Service. The existing timber supply is sufficient to maintain operations at only one large mill or two small mills. The Forest Service has estimated that if the timber stand in these three counties had been managed on a sustained-yield basis and protected from fire, it could have yielded continuously the largest volume of output and could have afforded continuously the largest amount of employment ever achieved in the three counties.

Causes of Changes in Employment

DECLINING DEMAND FOR TIMBER PRODUCTS

Regional shifts and variations in employment in lumbering have been primarily a result of depletion and of changes in the location of lumbering activities to tap new sources of supply and to take advantage of new market demands. The general changes in volume of employment, however, have been connected with changes in the general demand for lumber and timber products and with changes in the amount of labor required per unit of output.

The production of lumber attained its maximum in 1909, when 44,510,000,000 board feet were produced.

The lumber industry was one of the pioneer industries of America. The frontier marched westward on wood. The railroads, the frontier towns and cities, and the farms used wood for ties, railroad cars, houses and buildings, sidewalks, roads, fences, wagons and buggies, barrels and boxes, furniture, and agricultural implements. It is estimated that prior to 1910 "there was a prospective market for 4½ billion feet of lumber annually for 90,000 new farms" alone.⁵

After the first decade of the present century, the main factor in the decline of demand for lumber was the slowing up of agricultural expansion. During the twenties and thirties, the number of farms remained almost stationary, and the agricultural depression of the

⁵ U. S. Congress. Senate. A National Plan for American Forestry. (S. Doc. No. 12, 73d Cong., 1st sess., 1933, I. 249.)

twenties greatly reduced the demand for normal repair and replacement of farm buildings. The growth of towns and cities was accompanied by an expansion of building activities, but the prevalent multifamily dwellings required less floor space and utilized building materials other than lumber to a greater extent than single-family dwellings. There was also a tendency to displace lumber in urban construction other than residences. In addition, there was a substitution of other materials for wood in various manufacturing industries, as fiber in the making of boxes and crates and metal in railroad cars and furniture. In 1912, factories used the equivalent of 11,200,000,000 board feet, and in 1928, in spite of the vast expansion of manufacturing, factories used only 10,300,000,000 board feet. (See table 2.)

TABLE 2.—*Lumber Production in the United States and Regional Percentages, 1869–1938*¹

Year	United States (millions of feet, b. m.)	Regional percentages			Year	United States (millions of feet, b. m.)	Regional percentages		
		Pacific Coast ²	South ³	Other areas			Pacific Coast ²	South ³	Other areas
1869.....	12,756	4.4	10.1	85.5	1920.....	29,878	34.6	38.5	26.9
1879.....	18,091	3.7	13.8	82.5	1921.....	26,961	26.8	50.2	23.0
1889.....	27,039	8.0	18.8	73.2	1922.....	31,569	33.5	45.6	20.9
1899.....	35,078	8.3	31.7	60.0	1923.....	37,166	34.3	44.3	21.4
1904.....	34,127	13.4	39.2	47.4	1924.....	35,931	33.2	45.2	21.6
1905.....	30,503	20.5	34.4	45.1	1925.....	38,339	34.7	44.7	20.6
1906.....	37,551	19.3	36.9	43.8	1926.....	36,936	38.4	42.2	19.4
1907.....	40,256	16.8	39.8	43.4	1927.....	34,532	38.8	41.9	19.3
1908.....	33,224	16.2	41.0	42.8	1928.....	34,142	39.9	40.9	19.2
1909.....	44,510	15.5	44.9	39.6	1929.....	36,886	38.4	41.9	19.7
1910.....	40,018	18.6	43.6	37.8	1930.....	26,051	41.0	39.0	20.0
1911.....	37,003	19.2	43.1	37.7	1931.....	16,523	45.4	36.2	18.4
1912.....	39,158	18.5	46.3	35.2	1932.....	10,151	44.8	38.8	16.4
1913.....	38,387	20.6	47.7	31.7	1933.....	13,961	44.0	41.3	14.7
1914.....	37,346	19.0	47.7	33.3	1934.....	15,494	41.7	38.1	20.2
1915.....	31,242	20.3	47.7	32.0	1935.....	19,539	40.7	40.1	19.2
1916.....	34,791	23.4	47.6	29.0	1936.....	24,355	42.3	39.1	18.6
1917.....	33,193	24.7	47.1	28.2	1937.....	25,997	41.7	39.6	18.7
1918.....	29,362	29.3	42.4	28.3	1938.....	21,646	39.7	43.2	17.1
1919.....	34,552	25.5	46.5	28.0					

¹ Compiled from WPA Report No. M-5, tables on pp. 32 and 77 (see footnote 1, p. 54, where sources are given).

² California, Oregon, Washington. Figures for Nevada, usually not separable, are included but the effect is negligible.

³ Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Texas, and Virginia.

CHANGES IN LABOR PRODUCTIVITY

In the production of a given volume of lumber or lumber products, the amount of employment required per unit of output affects the number of workers employed. Assuming a given volume of production, a reduction in the amount of labor per unit of output (or an increase in the output per man-hour) means a smaller total employment. It is important, however, to note that a lowering of the cost of production, especially in a highly competitive industry, is an important factor in avoiding a loss of markets to other materials and in

preventing a decline of employment due to loss of markets. The effectiveness of a reduction in the amount of labor required per unit in forestalling loss of markets and in maintaining production depends in large degree on price reductions such as may be warranted by a reduction of labor requirements.

There was a significant rise of output per man-hour in the industry as a whole from 1919 to 1936. The output per man-hour from 1931 to 1936 was on the average 16.4 percent higher than during the years 1925 to 1930, and 22.5 percent higher than during the years 1919 to 1924. (See table 3.)

TABLE 3.—*Indexes of Output Per Wage Earner and Per Man-Hour in the Lumber and Timber Products Industry, 1919-36*¹

[1929=100.0]

Period	Output per wage earner	Output per man-hour
1919-24.....	86.1	91.1
1925-30.....	95.4	95.9
1931-36.....	86.7	111.6

¹ Magdoff, Harry; Siegel, Irving H.; and Davis, Milton B.: *Production, Employment and Productivity in 59 Manufacturing Industries, 1919-36* (WPA National Research Project, Report No. S-1, May 1939), part 2, p. 126. The 6-year averages presented above represent unweighted averages of the yearly index numbers.

The general increase in labor productivity was accompanied by a shift of production to areas of Douglas fir and western pine, which are processed with comparatively small amounts of labor. In the years from 1919 to 1924, Douglas fir contributed 22.7 percent of the total production of lumber, and western pine, 12.5 percent. During the years from 1931 to 1936, these proportions had increased to 29.0 percent and 17.7 percent. The amount of labor required per unit of output in 1935 for the production of timbers, yard lumber, and planing-mill lumber from southern pine was approximately twice as great as in production from Douglas fir, and was significantly greater in production from southern pine than from western pine.

Forest Management and Conservation

The economic and social problems accompanying the methods of lumbering that have usually been employed have given rise to a prolonged effort to promote conservation and through improved methods of forest management to develop a system of sustained-yield logging. This balancing of cuttings by timber growth would conserve not only the country's vital natural resources but would largely prevent the formation of groups of stranded populations in depleted areas. Lumbering on a sustained-yield basis would also have the advantages of facilitating permanent, continuing residence and employment for workers and the planning of community development and capital investment.

The problems of conservation of the forest resources differ fundamentally from those associated with the mineral resources. While some measure of depletion is an inevitable counterpart of the use of mineral resources, the forest can actually be made to yield an increasing raw-material return by the employment of appropriate forest-management techniques. The nature of recent technological developments in logging methods has been such as to encourage sustained-yield logging which, if widely adopted, would assure a basis for continued and stable operation in the industry. The effect of technical developments on future employment opportunities in the industry may well depend more on how the equipment is employed than on what particular equipment is developed and at what rate it is introduced.

Social Security

PLACEMENT WORK OF PUBLIC EMPLOYMENT SERVICE, MAY 1940¹

COMPLETE placements during May numbered nearly 350,000, an increase of almost one-fifth over the total number of jobs filled in April. Placements in private employment rose 18 percent over April to a level of 304,000, approaching the record high of 308,000 established in October 1939. Public placements increased nearly 28 percent from April but were well below the volume of previous years; supplemental placements, however, rose considerably during the month. Although applications for work declined, there was practically no change in the number of registrants for the active file at the end of the month.

There were 304,000 jobs filled in private employment during the month, representing an increase of 18 percent over April and 26 percent over May 1939. More than 37,000 of these placements were in agricultural jobs, a sharp increase over the previous month, for this type of employment. Increased private placements were general, with 41 States reporting more such placements than in April. Placements more than doubled in Alabama, Idaho, and New Hampshire. Agricultural placements largely contributed to the increase in the first two States. Increases of 50 percent or more were also shown by 6 other States, and all but 6 States reported more private placements than in May 1939. Although regular placements—jobs expected to last more than 1 month—increased 8 percent to 136,000, they represented a smaller proportion of the total than in the previous month as placements in temporary jobs increased 26 percent to 169,000.

Despite the 28 percent increase in the number of jobs filled in public and governmental work to more than 45,000, the volume was nevertheless considerably below that of May 1939 and May 1938.

Private placements in the first 5 months of 1940 were nearly a third higher than in the corresponding period in 1939. The greatest improvement was shown in Arizona, Florida, Hawaii, Mississippi, and Washington, all of which made more than twice as many placements in 1940.

¹ Prepared by Research and Statistics Division, Bureau of Employment Security, Social Security Board.

The greatest increase for any type of placement was that for supplemental placements which expanded 86 percent over April. This represented the highest volume of such placements this year and was also an increase of 15 percent over the number of such placements made in May 1939. Approximately four-fifths of such placements were in agriculture. Nearly one-half of all supplemental placements were accounted for by Texas.

Reflecting a general seasonal pick-up in employment, the number of applications for work received during May totaled about 1½ million, a decline of 12 percent from the previous month, but an increase of 9 percent over May 1939. The sharpest rise during the month was in Rhode Island, where receipts more than doubled.

Despite the increased placements and fewer applications for work, the number of registrants in the active file at the end of May was slightly higher than at the beginning of the month. The 5.7 million registrants for work at the end of the month were 10 percent fewer than at the end of May 1939. Despite the increase for the country as a whole, declines in the active file of job seekers were reported in 30 States.

TABLE 1.—*Summary of Placement Activities of Public Employment Services, May 1940*

Activity	Number	Percentage change from—		
		April 1940	May 1939	May 1938
Total complete placements.....	349,664	+18.7	+5.0	+46.3
Private.....	304,202	+17.5	+25.5	+91.1
Regular.....	135,622	+8.2	+22.8	+109.4
Temporary.....	168,580	+26.3	+27.7	+78.5
Public.....	45,462	+27.6	-49.9	-43.0
Supplemental placements.....	83,616	+85.8	+14.9	-----
Total applications.....	1,327,683	-12.4	+9.4	+11.4
Active file.....	5,723,949	+7	-10.3	-23.9

During May, almost 14,000 veterans were placed in jobs through the facilities of public employment offices. Approximately 11,000 of these placements were in private employment, an increase of more than a fifth over such placements in April. Applications for work received from veterans declined 12 percent. Contrary to the general trend, the number of veterans in the active file declined during May.

TABLE 2.—*Summary of Placement Activities for Veterans, May 1940*

Activity	Number	Percentage change from—		
		April 1940	May 1939	May 1938
Total complete placements.....	13,539	+22.5	-14.4	-2.7
Private.....	10,765	+20.6	+12.5	+50.6
Regular.....	3,460	+11.0	+8.0	+75.6
Temporary.....	7,305	+25.8	+14.8	+41.1
Public.....	2,774	+30.2	-55.6	-59.0
Total applications.....	45,940	-12.1	+6.2	-4.3
Active file.....	246,844	-2.0	-26.0	-45.3

TABLE 3.—Activities, Public Employment Services, All Registrants, by States, May 1940
 [Preliminary data reported by State agencies, corrected to June 13, 1940]

Social Security Board region and State	Complete placements						Applications received				Active file as of May 31, 1940
	Total	Private				Public	Supplemental placements	Number	Percent of change from—		
		Number	Percent of change from—		Regular (over 1 month)				April 1940	May 1939	
			April 1940	May 1939							
Total.....	349,664	304,202	+17.5	+25.5	135,622	45,462	83,616	1,327,683	-12.4	+9.4	5,723,949
Region I:											
Connecticut.....	6,023	4,609	+8.5	+18.5	2,597	1,354	200	19,476	-13.7	-4.5	84,206
Maine.....	1,927	1,639	+35.8	+10.4	1,181	288	1	10,052	-20.9	+6.4	47,037
Massachusetts.....	4,209	3,524	+22.4	+62.8	2,569	685	87	40,410	+1.6	+31.7	209,711
New Hampshire.....	2,592	1,979	+102.1	+15.5	1,247	613	419	7,195	-19.7	-6.9	24,613
Rhode Island.....	963	814	+48.8	+8.4	568	149	66	7,719	+123.2	-9.7	43,703
Vermont.....	1,200	1,030	+45.3	+30.4	495	170	15	2,526	-31.7	-10.2	18,064
Region II:											
New York.....	28,876	26,604	+25.7	+41.0	12,713	2,272	879	187,920	-29.3	+10.3	691,332
Region III:											
Delaware.....	1,504	1,381	+57.6	-8.0	547	123	30	2,993	-6.9	-41.8	12,416
New Jersey.....	10,654	10,148	+20.4	+3.0	5,565	506	1,310	47,849	-23.2	-6.3	265,922
Pennsylvania.....	16,950	11,712	+13.7	+47.8	7,166	5,238	895	133,738	+1.7	+31.6	356,204
Region IV:											
Dist. of Columbia.....	5,069	4,427	+35.0	+8.8	1,862	642	3	9,593	+3.8	+3.7	34,509
Maryland.....	4,906	4,421	+39.3	+56.4	1,849	485	32	21,338	-3.5	+26.6	72,232
North Carolina.....	7,289	5,705	+16.0	+32.2	2,540	1,584	996	25,186	-1.7	+6.3	91,440
Virginia.....	6,757	5,590	+53.9	+25.4	3,050	1,167	1,059	19,793	-18.7	-13.6	57,469
West Virginia.....	3,028	2,618	+13.4	+14.7	1,113	410	297	22,764	-14.0	-2.2	86,673
Region V:											
Kentucky.....	4,415	3,876	+56.6	+84.5	1,050	539	127	17,394	-4.6	-26.2	99,407
Michigan.....	13,170	12,097	+24.6	+31.4	6,682	1,073	132	48,526	-23.5	-4.1	234,434
Ohio.....	18,696	17,554	+17.5	+39.4	7,503	1,142	477	74,643	-11.4	+17.1	310,436
Region VI:											
Illinois.....	15,357	15,192	+7.1	+24.4	6,817	165	840	57,789	-6.8	+55.4	202,455
Indiana.....	9,110	8,795	+10.3	+14.9	4,336	315	2,978	38,990	-9.1	+6.8	164,093
Wisconsin.....	7,715	7,053	+15.6	+7.4	3,559	662	399	26,514	-11.8	-2.6	116,419
Region VII:											
Alabama.....	8,429	7,733	+140.8	+75.0	2,946	696	314	21,306	-5.4	+37.8	125,413
Florida.....	2,664	2,205	-3	+168.2	1,216	459	2,223	16,684	-7	+9.6	63,287
Georgia.....	9,644	8,274	+13.9	+81.1	3,381	1,370	156	36,449	+52.1	+68.4	163,044
Mississippi.....	4,860	2,098	-6.5	+48.9	1,231	2,762	451	17,235	-7.0	+2.8	53,085
South Carolina.....	3,437	1,941	+2.8	+81.2	1,190	1,496	101	9,816	+8	-13.7	46,982
Tennessee.....	6,286	5,555	+35.0	+15.6	2,604	731	4,369	14,719	+12.2	+2.5	124,691
Region VIII:											
Iowa.....	7,602	6,174	+1.8	+8	2,187	1,428	563	15,040	-13.5	-13.2	87,118
Minnesota.....	7,164	6,556	+29.1	+21.0	3,601	608	352	18,502	-13.5	+5.0	152,657
Nebraska.....	3,180	1,726	-6	+7.3	815	1,454	52	12,829	+24.2	+66.5	48,596
North Dakota.....	2,315	2,019	-6.5	+24.9	819	296	37	4,138	-14.1	+15.2	29,356
South Dakota.....	1,761	1,166	+5.7	+14.1	476	595	27	2,905	-13.1	+1.1	28,362
Region IX:											
Arkansas.....	7,086	6,730	+18.6	+4.7	1,367	356	6,299	10,685	+5.5	+7.9	54,526
Kansas.....	4,575	4,006	+11.2	+73.1	1,244	569	207	16,474	+3.5	+42.8	60,815
Missouri.....	9,193	8,376	-5.5	+66.4	4,091	817	523	47,403	-3.9	+57.6	187,083
Oklahoma.....	6,546	5,835	-11.0	+1.4	1,141	711	1,007	17,074	-19.1	-7.1	87,812
Region X:											
Louisiana.....	3,403	2,981	-9.7	-38.5	1,800	422	466	19,829	-10.4	+3	84,692
New Mexico.....	1,229	934	-15.6	-25.3	530	295	785	3,911	-31.2	+1.1	37,661
Texas.....	30,651	28,487	+1.1	+13.9	7,598	2,164	40,003	48,881	-3.7	-7	253,238
Region XI:											
Arizona.....	3,055	2,673	+11.9	+53.8	895	382	1,497	6,205	-7.1	+26.8	25,826
Colorado.....	5,457	5,019	+61.3	+10.7	1,984	438	488	14,378	-14.9	-4.5	62,287
Idaho.....	4,253	3,505	+100.5	+36.8	942	748	1,560	6,755	+1	+7.2	13,967
Montana.....	2,821	1,814	+21.6	+108.7	1,315	1,007	457	4,565	-24.6	+1.9	27,722
Utah.....	1,801	1,584	+76.6	+95.8	331	217	165	7,590	-5	-11.8	20,165
Wyoming.....	1,395	744	+50.6	-5.6	451	651	20	3,241	+9.2	-10.4	8,583
Region XII:											
California.....	22,244	20,182	+12.7	-1	9,586	2,062	1,688	87,009	-25.8	-20.9	486,264
Nevada.....	1,229	1,074	-9	+11.8	542	155	237	2,764	-6.9	+5.8	5,709
Oregon.....	6,031	4,760	+21.5	+8.0	2,322	1,271	7,613	15,532	-36.4	+35.2	43,072
Washington.....	9,419	8,557	+27.0	+102.2	3,785	862	650	20,610	-6	+35.8	106,647
Territories:											
Alaska.....	763	289	+11.2	-4.9	102	474	53	1,213	-6.4	-3.0	2,543
Hawaii.....	761	377	-15.3	+77.0	121	384	11	1,533	+10.8	+34.1	9,971

TABLE 4.—Activities of Public Employment Services, Veterans, by States, May 1940
[Preliminary data reported by State agencies, corrected to June 13, 1940]

Social Security Board region and State	Complete placements						Applications received			Active file as of May 31, 1940
	Total	Num- ber	Private		Regu- lar (over 1 month)	Pub- lic	Num- ber	Percent of change from—		
			Percent of change from—					April 1940 ¹	May 1939 ¹	
			April 1940 ¹	May 1939 ¹						
Total.....	13, 539	10, 765	+20. 6	+12. 5	3, 460	2, 774	45, 940	-12. 1	+6. 2	246, 844
Region I:										
Connecticut.....	290	188	+11. 2	+34. 3	92	102	570	-35. 4	-32. 8	3, 932
Maine.....	70	40			24	30	296	-32. 3	-8. 9	2, 530
Massachusetts.....	97	66		+3. 1	56	31	942	-6. 6	+11. 2	6, 173
New Hampshire.....	165	93		+55. 0	62	72	302	-7. 9	+6. 7	971
Rhode Island.....	47	39			26	8	163	+176. 3	-1. 8	1, 195
Vermont.....	45	30			11	15	80	-44. 1	-35. 0	810
Region II:										
New York.....	795	690	+35. 3	+50. 0	241	105	2, 679	-22. 9	-1. 1	17, 443
Region III:										
Delaware.....	51	46			22	5	105	+16. 7	-53. 5	418
New Jersey.....	207	186	+30. 1	+8. 1	105	21	1, 220	-42. 2	-15. 3	9, 766
Pennsylvania.....	425	255	+17. 5	+34. 9	144	170	5, 045	+2. 9	+33. 7	13, 780
Region IV:										
Dist. of Columbia.....	245	161	+91. 7	+1. 9	44	84	532	+47. 8	+24. 9	1, 919
Maryland.....	220	189	+18. 9	+39. 0	73	31	787	-9. 4	+42. 6	3, 139
North Carolina.....	163	121	+24. 7	+1. 7	40	42	518	-22. 1	-25. 0	2, 055
Virginia.....	167	111	+38. 8	-17. 2	63	56	434	-16. 2	-28. 1	1, 339
West Virginia.....	90	67		-37. 4	14	23	1, 219	+31. 1	+48. 8	4, 502
Region V:										
Kentucky.....	198	140	+91. 8	+50. 5	19	58	615	-15. 2	-31. 1	4, 123
Michigan.....	634	568	+56. 9	+51. 5	265	66	2, 299	-29. 7	+15. 1	13, 187
Ohio.....	743	676	+39. 7	+51. 9	222	67	2, 611	-13. 7	+4. 5	12, 829
Region VI:										
Illinois.....	529	496	+20. 4	+4. 4	122	33	2, 898	+8. 7	+121. 1	9, 185
Indiana.....	299	283	+36. 1	-9. 6	97	16	1, 270	+1. 8	-10. 2	8, 693
Wisconsin.....	210	151	-3. 2	-30. 7	67	59	1, 362	-7. 9	+11. 1	7, 313
Region VII:										
Alabama.....	194	178	+74. 5	+74. 5	68	16	659	-12. 4	+37. 0	4, 986
Florida.....	68	46			22	22	611	+2. 5	-9. 9	2, 932
Georgia.....	242	209	+12. 4	+46. 2	49	33	1, 004	+103. 7	+80. 6	4, 490
Mississippi.....	98	32			19	66	326	-16. 0	+5. 2	1, 308
South Carolina.....	121	68			23	53	265	+5. 6	-31. 0	1, 480
Tennessee.....	231	188	+15. 3	+23. 7	41	43	371	-17. 6	-36. 8	4, 908
Region VIII:										
Iowa.....	790	552	+24. 0	+2. 6	117	238	684	-6. 3	-16. 5	5, 204
Minnesota.....	340	289	+40. 3	+72. 0	131	51	710	-8. 6	-5. 0	9, 744
Nebraska.....	123	65	-36. 9	-21. 7	22	58	801	+40. 8	+169. 7	2, 755
North Dakota.....	84	60	-1. 6		14	24	132	-15. 9	+32. 0	1, 286
South Dakota.....	75	47			10	28	119	+21. 4	+16. 7	1, 530
Region IX:										
Arkansas.....	275	269	+13. 5	+13. 0	34	6	311	-9. 3	-19. 0	2, 472
Kansas.....	173	151	0	+16. 2	22	22	778	+9. 9	+26. 9	3, 808
Missouri.....	430	401	-12. 6	+26. 1	115	29	2, 237	+3. 8	+95. 5	10, 205
Oklahoma.....	339	285	+33. 8	-27. 7	28	54	790	-18. 4	-22. 2	5, 522
Region X:										
Louisiana.....	57	39			16	18	545	-12. 7	-23. 3	2, 547
New Mexico.....	73	52	+2. 0		18	21	190	-32. 9	+21. 0	1, 939
Texas.....	1, 099	989	+4. 2	+6. 9	148	110	1, 148	+1. 7	-15. 1	7, 819
Region XI:										
Arizona.....	155	130	+44. 4	+44. 4	25	25	364	-2. 4	+61. 1	1, 620
Colorado.....	185	154	+10. 0	-22. 6	45	31	650	-19. 6	-3. 6	3, 292
Idaho.....	281	198	+48. 9	-12. 0	45	83	399	+4. 2	+23. 5	746
Montana.....	231	145	+83. 5	+137. 7	97	86	255	-29. 9	-13. 6	1, 553
Utah.....	60	33			5	27	362	-8. 4	-26. 3	1, 197
Wyoming.....	118	32			14	86	164	-6. 8	-23. 0	469
Region XII:										
California.....	1, 137	958	+6. 8	-7. 4	306	179	4, 356	-30. 3	-26. 4	28, 595
Nevada.....	87	77	0	-3. 8	15	10	144	-10. 6	-13. 8	352
Oregon.....	381	261	+19. 7	+38. 8	108	120	761	-57. 8	+58. 5	2, 844
Washington.....	319	242	-23. 2	+33. 0	89	77	719	-10. 0	-5. 6	5, 326
Territories:										
Alaska.....	51	7			5	44	84	+35. 5	+61. 5	150
Hawaii.....	32	12			0	20	54			463

¹ Where less than 50 veteran placements or applications were involved in either period the percentage change was not computed.

UNEMPLOYMENT-COMPENSATION OPERATIONS, MAY 1940¹

CONTINUED claims received during May numbered 7.3 million, surpassing the record established in April by 700,000 claims. Benefit payments totaled 54.9 million dollars, the highest monthly disbursement in the history of the employment-security program, reflecting to a large extent increased volumes of compensable claims in States which initiated new uniform benefit years in April. Approximately \$1,055,000,000 has been paid to unemployed workers since benefits were first payable.

The 7.3 million continued claim receipts in May represented an increase of 10.2 percent over April. The increase was entirely attributable to an expansion in the volume of compensable claims, since claims filed to meet waiting-period requirements of State laws declined more than 23 percent from the previous month. Compensable claims comprised more than 76 percent of all continued claims during May in contrast to about two-thirds in April. Increases of more than 20 percent were reported by Alaska, Missouri, Illinois, Massachusetts, New York, and Virginia. The latter 4 States initiated new uniform benefit years in April. Of the 29 States showing declines, reductions of 20 percent or more were reported by Idaho, Minnesota, Montana, Nebraska, North Dakota, Oregon, Utah, and Vermont. Those showing increased receipts were largely in the South Atlantic and East South Central areas. States reporting reductions were largely concentrated in the West North Central and Rocky Mountain areas.

Approximately 5.5 million weeks of unemployment were compensated during May, an increase of 31 percent over April. The greater part of the weeks compensated were for total unemployment; such weeks totaled 4.9 million, or nearly 90 percent of the total number of weeks compensated. Increases were shown by 29 States; in West Virginia, more than 4 times as many weeks of unemployment were compensated as in April, while in New York and Virginia, the number of weeks compensated was more than double that of the previous month. Other large increases were shown in Illinois, Massachusetts, and Rhode Island, where the volume of weeks of unemployment compensated increased more than 50 percent. All of these States began new uniform benefit years in April. There were also 6 other States reporting increases of 30 percent or more. Declines of 20 percent or more were reported by Vermont, Nebraska, Minnesota, Idaho, Montana, Utah, and Oregon. Of the 471,000 weeks of partial and part-total unemployment compensated during the month, more than one-third was accounted for by Illinois and California.

¹ Prepared by Research and Statistics Division, Bureau of Employment Security, Social Security Board.

The record sum of 54.9 million dollars in benefit payments represented an increase of 30 percent over the April volume. The previous monthly high was 48.9 million dollars in March 1939. Increases were reported in 29 States, with the largest rises occurring in Illinois, New York, Virginia and West Virginia, where payments more than doubled. Benefit payments expanded more than 40 percent in Maine, Maryland, Massachusetts and Rhode Island; there were 3 additional States reporting rises of 30 percent or more. In the area east of the Mississippi, 21 of 27 States reported higher payments in May than in April. Reductions of 20 percent or more in benefit payments were shown in the District of Columbia, Vermont, Idaho, Iowa, Minnesota, Montana, Nebraska, and Oregon. Approximately 51.2 million dollars, or 93 percent of all payments, represented benefits for total unemployment.

Continued Unemployment Compensation Claims Received, Weeks Compensated, and Benefits Paid, by States, May 1940

[Preliminary data reported by State agencies, corrected to June 13, 1940]

Social Security Board region and State	Continued claims			Weeks compensated			
	Number	Type		Number	Type of unemployment		
		Waiting period	Compens- able		Total	Partial and part- total com- bined ¹	Partial only ¹
Total.....	7,290,872	1,717,143	5,573,729	^a 5,467,147	^b 4,879,501	^c 470,560	-----
Region I:							
Connecticut.....	78,190	16,355	61,835	62,643	52,494	10,149	(^e)
Maine.....	93,494	22,951	70,543	76,455	70,003	6,452	(^e)
Massachusetts.....	478,769	126,406	352,363	374,813	374,813	(ⁱ)	(ⁱ)
New Hampshire.....	62,427	18,921	43,506	46,855	37,908	8,947	(ⁱ)
Rhode Island.....	187,338	29,453	157,885	157,885	136,903	20,982	(^e)
Vermont.....	13,798	2,794	11,004	10,904	9,331	1,573	1,359
Region II:							
New York.....	1,484,831	408,073	1,076,758	951,437	951,437	(ⁱ)	(ⁱ)
Region III:							
Delaware.....	10,960	1,780	9,180	9,136	7,648	1,488	1,310
New Jersey.....	260,515	69,774	190,741	189,677	189,677	(ⁱ)	(ⁱ)
Pennsylvania.....	617,025	171,742	445,283	490,940	490,940	(ⁱ)	(ⁱ)
Region IV:							
District of Columbia.....	21,011	4,116	16,895	17,289	16,449	840	(^e)
Maryland.....	126,294	22,220	104,074	97,749	86,967	10,782	9,586
North Carolina.....	137,503	31,033	106,470	^f 98,928	(^e)	(^e)	(^e)
Virginia.....	131,560	27,470	104,090	101,855	94,734	7,121	6,813
West Virginia.....	89,119	22,738	66,381	58,107	57,283	824	(^e)
Region V:							
Kentucky.....	58,497	19,211	39,286	77,276	60,961	16,315	(^e)
Michigan.....	216,384	40,797	175,587	164,038	154,083	9,955	(^e)
Ohio.....	370,143	94,714	275,429	^g 280,893	228,777	52,116	(^e)
Region VI:							
Illinois.....	587,325	111,215	476,110	453,949	347,150	106,799	72,684
Indiana.....	133,272	26,938	106,334	106,222	82,598	23,624	(^e)
Wisconsin.....	55,549	20,370	35,179	35,135	30,558	4,577	2,892
Region VII:							
Alabama.....	95,692	22,185	73,507	72,098	63,844	8,254	6,677
Florida.....	71,706	17,400	54,306	52,413	45,107	7,306	(^e)
Georgia.....	96,164	25,472	70,692	71,167	66,220	4,947	4,010
Mississippi.....	41,635	9,568	32,067	31,230	29,930	¹ 1,300	(ⁱ)
South Carolina.....	47,532	9,084	38,448	37,848	31,860	5,988	2,982
Tennessee.....	116,867	21,610	95,257	75,417	69,153	6,264	1,950
Region VIII:							
Iowa.....	50,736	13,684	37,052	36,943	31,024	5,919	1,755
Minnesota.....	107,966	12,142	95,824	101,845	93,596	8,249	(^e)
Nebraska.....	19,183	2,399	16,784	16,542	14,889	1,653	830
North Dakota.....	8,458	853	7,605	7,436	6,852	584	6
South Dakota.....	7,217	1,116	6,101	5,905	5,072	833	(^e)

See footnotes at end of table.

Continued Unemployment Compensation Claims Received, Weeks Compensated, and Benefits Paid, by States, May 1940—Continued

Social Security Board region and State	Continued claims			Weeks compensated			
	Number	Type		Number	Type of unemployment		
		Waiting period	Compens- able		Total	Partial and part- total com- bined ¹	Partial only ¹
Region IX:							
Arkansas.....	66,549	11,184	55,365	55,365	52,416	2,949	259
Kansas.....	29,519	9,718	19,801	19,791	17,105	2,686	1,724
Missouri.....	142,859	54,934	87,925	83,483	67,252	16,231	9,321
Oklahoma.....	48,119	9,988	38,131	36,920	30,810	6,110	1,063
Region X:							
Louisiana.....	108,812	20,586	88,226	83,651	79,005	4,646	(¹)
New Mexico.....	13,421	1,842	11,579	11,638	10,073	1,565	1,164
Texas.....	180,279	84,136	96,133	117,310	100,957	16,353	(¹)
Region XI:							
Arizona.....	13,934	3,518	10,416	10,163	9,476	687	28
Colorado.....	47,416	6,234	41,182	43,886	37,371	6,515	3,712
Idaho.....	19,844	3,200	16,644	17,393	16,348	1,045	(¹)
Montana.....	30,195	3,691	26,504	25,825	25,825	(¹)	(¹)
Utah.....	9,925	1,106	8,819	8,973	7,275	1,698	861
Wyoming.....	11,164	2,058	9,106	9,451	7,133	2,318	1,695
Region XII:							
California.....	538,596	54,129	484,467	* 447,917	375,363	54,505	(¹)
Nevada.....	9,176	1,076	8,100	7,514	6,910	604	13
Oregon.....	42,471	8,690	33,781	33,553	27,385	6,168	4,590
Washington.....	90,656	13,923	76,733	75,360	65,207	10,153	(¹)
Territories:							
Alaska.....	5,800	1,897	3,903	* 3,605	3,280	207	0
Hawaii.....	4,977	639	4,338	4,319	2,040	2,279	2,253

Social Security Board region and State	Benefits paid				Month and year benefits first payable	Amount of benefits since first payable ²
	Amount ²	Type of unemployment				
		Total	Partial and part- total com- bined ¹	Partial only ¹		
Total.....	\$54,887,280	*\$51,168,182	*\$3,067,284	-----		\$1,054,585,601
Region I:						
Connecticut.....	586,676	520,975	64,060	(¹)	January 1938.....	20,269,752
Maine.....	470,545	444,040	25,151	(¹)	do.....	9,073,010
Massachusetts.....	3,744,430	3,744,430	(¹)	(¹)	do.....	58,580,103
New Hampshire.....	373,025	326,357	46,668	(¹)	do.....	5,455,878
Rhode Island.....	1,511,186	1,417,684	93,502	(¹)	do.....	19,167,424
Vermont.....	90,079	83,001	7,070	\$5,512	do.....	1,948,561
Region II:						
New York.....	10,878,142	10,878,142	(¹)	(¹)	do.....	204,311,725
Region III:						
Delaware.....	78,844	69,587	9,207	8,057	January 1939.....	1,173,752
New Jersey.....	1,741,210	1,741,210	(¹)	(¹)	do.....	22,587,277
Pennsylvania.....	5,311,123	5,311,123	(¹)	(¹)	January 1938.....	148,321,984
Region IV:						
District of Columbia.....	146,012	140,470	5,542	(¹)	do.....	3,997,819
Maryland.....	820,199	752,828	67,214	59,339	do.....	18,873,893
North Carolina.....	447,786	(¹)	(¹)	(¹)	do.....	14,424,954
Virginia.....	731,832	693,448	38,388	36,525	do.....	12,529,942
West Virginia.....	440,793	433,073	7,720	(¹)	do.....	17,634,323
Region V:						
Kentucky.....	544,404	465,272	74,795	(¹)	January 1939.....	6,877,687
Michigan.....	1,839,686	1,787,025	52,661	(¹)	July 1938.....	86,350,369
Ohio.....	* 2,600,865	2,342,835	258,030	(¹)	January 1939.....	* 36,271,631
Region VI:						
Illinois.....	5,384,759	4,517,045	860,831	544,003	July 1939.....	35,551,248
Indiana.....	1,052,517	920,334	132,029	(¹)	April 1938.....	31,063,877
Wisconsin.....	344,546	316,550	27,996	15,848	July 1936.....	17,349,562

See footnotes at end of table.

Continued Unemployment Compensation Claims Received, Weeks Compensated, and Benefits Paid, by States, May 1940—Continued

Social Security Board region and State	Benefits paid				Month and year benefits first payable	Amount of benefits since first payable ¹
	Amount ²	Type of unemployment				
		Total	Partial and part- total com- bined ³	Partial only ⁴		
Region VII:						
Alabama.....	\$465,238	\$416,117	\$48,789	\$39,715	January 1938.....	\$14,397,159
Florida.....	475,032	424,883	50,149	(⁵)	January 1939.....	5,516,897
Georgia.....	438,995	420,442	18,553	14,061	do.....	4,989,420
Mississippi.....	186,389	180,325	¹ 5,841	(⁶)	April 1938.....	3,888,596
South Carolina.....	238,916	211,523	27,372	13,228	July 1938.....	3,762,067
Tennessee.....	544,997	517,179	27,818	7,598	January 1938.....	13,344,925
Region VIII:						
Iowa.....	310,144	281,054	28,482	4,970	July 1938.....	10,117,352
Minnesota.....	984,330	920,348	63,785	(⁵)	January 1938.....	21,512,025
Nebraska.....	146,813	135,728	11,085	4,828	January 1939.....	2,365,390
North Dakota.....	67,865	63,337	4,528	45	do.....	916,611
South Dakota.....	40,166	35,090	4,869	(⁵)	do.....	591,097
Region IX:						
Arkansas.....	369,751	357,518	12,233	1,000	do.....	3,146,843
Kansas.....	168,036	151,281	16,755	10,052	do.....	3,394,332
Missouri.....	670,071	586,485	83,586	46,564	do.....	8,635,182
Oklahoma.....	332,667	296,286	36,381	4,483	December 1938.....	6,165,015
Region X:						
Louisiana.....	615,936	588,832	26,359	(⁵)	January 1938.....	12,607,577
New Mexico.....	100,860	89,447	11,413	8,168	December 1938.....	1,766,879
Texas.....	856,294	779,615	76,368	(⁵)	January 1938.....	24,557,821
Region XI:						
Arizona.....	108,952	103,559	5,393	190	do.....	4,023,155
Colorado.....	438,547	388,174	49,701	27,210	January 1939.....	5,566,678
Idaho.....	188,143	179,682	8,423	(⁵)	September 1938.....	3,891,658
Montana.....	269,244	269,244	(⁶)	(⁶)	July 1939.....	2,763,235
Utah.....	97,476	85,689	11,787	5,600	January 1938.....	4,915,037
Wyoming.....	111,119	91,282	19,837	13,759	January 1939.....	1,927,933
Region XII:						
California.....	6,087,145	5,408,714	495,147	(⁵)	January 1938.....	91,677,976
Nevada.....	96,763	91,082	5,681	102	January 1939.....	1,410,364
Oregon.....	388,508	339,233	47,159	33,871	January 1938.....	12,451,847
Washington.....	868,407	783,625	84,782	(⁵)	January 1939.....	11,450,158
Territories:						
Alaska.....	51,057	48,623	1,770	0	do.....	586,213
Hawaii.....	30,760	18,356	12,404	12,190	do.....	440,578

¹ Benefits for partial unemployment are not provided by State law in Mississippi, Montana, New Jersey, New York, and Pennsylvania. In Massachusetts provision for such payments is not effective until October 1940. Of these, only Mississippi provides for payments of less than full weekly benefit amount for total unemployment, i. e., part-total unemployment.

² Includes supplemental payments, not classified by type of unemployment.

³ Adjusted to exclude returned and voided benefit checks.

⁴ Includes some weeks not classified by type of unemployment; in Alaska 109, and in California 18,049.

⁵ Excludes North Carolina.

⁶ Data for partial unemployment included with data for part-total unemployment.

⁷ Represents number of pay orders issued.

⁸ Data not reported.

⁹ Figures for May exclude 100 payments amounting to \$2,614 arising from recalculation of weekly benefit amounts and 610 payments for 1,466 weeks amounting to \$15,521 for payment of miners' claims resulting from labor dispute in 1939. Both amounts, however, are included in benefits since first payable.

BRITISH OLD-AGE AND WIDOWS' PENSIONS ACT, 1940

AMENDMENTS¹ to the British Contributory Pensions Acts, which amendments became law on March 21, 1940, provided that contributory old-age pensions should be payable to an insured woman, or to the wife of an insured man who has attained the age of 65, at age 60 instead of 65. The ordinary rates of contribution payable under the principal act were increased by 2d. per week for men under the age of 65, and by 3d. for women who have not attained the age of 60. Of these increases, 1d. per week is payable by the employer and the remainder by the employed person, and additional liability is assumed by the Exchequer. This part of the act becomes effective July 1, 1940.

Persons entitled to receive weekly payments on account of an old-age pension, and those who have reached the age of 60 and are entitled to a widow's pension, may receive a supplementary pension granted on the ground of need. The sums required for the payment of supplementary pensions will be defrayed out of moneys provided by Parliament. The supplementary pensions will be administered by the Assistance Board, formerly known as the Unemployment Assistance Board. This part of the act becomes effective August 3, 1940.



DISMISSAL COMPENSATION AND OTHER BENEFITS FOR COLOMBIAN CONSTRUCTION WORKERS²

DISMISSAL compensation of not less than 1 week's wages shall be paid to construction workers of private construction enterprises in Colombia which employ an average of 20 or more workers for 30 days or more, and of official building-construction enterprises, when such workers are discharged, except when dismissed for bad conduct or for proved noncompliance with the terms of a labor contract. This is required under a law of December 19, 1939, regulated by a decree of April 10, 1940. Other benefits for the workers provided by the same legislation are medical assistance and hospitalization, for a period up to 3 months from date of certification of disability, for workers who fall ill while employed, and semimonthly official inspections to assure safety of scaffolding in building construction higher than one story. Penalties are specified for noncompliance with the provisions of this legislation.

The legislation applies to construction workers and apprentices who are employed for over a month on construction work, by the day, piece, or job, with the exception of workers under contract for spe-

¹ Ministry of Labor Gazette, London, April 1940.

² Data are from report of A. R. Randolph, American vice consul at Bogotá, Colombia; and from Comparative Law Series, U. S. Bureau of Foreign and Domestic Commerce, Washington, April 1940.

cialized work, those who form part of another enterprise, and those who have shops of their own. Laborers working on repair jobs are not considered construction workers for the purposes of this legislation.

Construction workers are entitled to compensation, not only for dismissal, when it is not due to bad conduct nor to proved failure to comply with the labor contract, but also for temporary interruption of work, when the employer does not, within 3 days after the termination of one job, reemploy the workers upon other work under conditions not less favorable than in the job completed. Compensation is to be 3 days' pay for each month employed after December 19, 1939, but shall in no case be less than 1 week's pay.

Medical and hospital care must be provided by construction enterprises for workers who fall ill while employed or because of their employment, except in cases where the illness is produced intentionally by or through the fault of the worker. Medical and surgical care and hospitalization shall be granted upon the advice of the company physician or, in his absence, of an official physician. Enterprises may contract for the medical and other health services required by this legislation.

In case of rain, foremen and supervisors of construction work are to order suspension of all outside work except that which cannot be interrupted because of the nature of the needs it satisfies, for technical reasons, or because of damage to the construction work itself. Wages are not to be reduced for time lost because of rain, but the employer may require the workers to engage in work under cover, or may require them, after the rain, to make up time lost, but in such a way as to make the total working hours no more than 48 in a week; time thus made up shall not be considered overtime for purpose of pay.

Mayors of municipalities are to order the inspection of scaffolding used in construction work twice a month, to make sure the safety regulations are observed, and shall levy fines for noncompliance. Construction enterprises are required to furnish the tools necessary for work, except special ones which do not form part of the regular tool equipment for construction.

When the employer is a contractor, the owner is responsible when the contractor fails to comply with the requirements of this legislation, but has the right to recover from the contractor the amount of any payments made.

For regulation of supply and demand for construction workers, the National Labor Bureau (*Departamento Nacional del Trabajo*) shall establish employment exchanges (*bolsas de trabajo*) in Bogotá and in other urban centers where such offices are considered desirable.

OLD-AGE AND INVALIDITY PENSIONS AND OTHER BENEFITS IN SWEDEN IN 1938

THE Swedish pension law of June 28, 1935, was amended April 23, 1937, to increase the amount of the noncontributory pensions (pension bonus) for persons living in communes where the cost of living is relatively high.¹ For the purpose of revising the pensions, the communes were classified in three groups according to living costs in the different regions. The maximum pension bonus and disability pension for both men and women was fixed at 250 kronor per year in the regions in which the cost of living is lowest, 350 kronor in the intermediate sections, and 450 kronor in the communes having the highest living costs, minus seven-tenths of the amount by which the annual income exceeds 100 kronor. Persons receiving pensions who move to another commune in which living costs are higher, must live there 3 years before receiving the higher pension.

A law of June 18, 1937, which became effective January 1, 1938, provided for assistance for the care and education of orphans. The annual benefits for full orphans amount to 300, 360, and 420 kronor, according to the cost of living in the different communes, and for children whose father or legal guardian is dead, or those whose parents or guardians are permanently incapacitated for work, the benefits are, respectively, 240, 300, and 360 kronor, subject to a certain reduction if there are two or more children in the family. The annual benefit is increased by 60 kronor for children under 2 years of age. The benefits are payable up to the age of 16.

A law of March 24, 1938, provided that mutual-aid societies must have at least 100 members, and pension-fund societies at least 50 members. If the latter provide insurance for invalidity or for survivors, or pay sickness benefits in excess of 90 days for the same sickness and amounting to more than 500 kronor, the society should have at least 500 members.

In 1936, about 4,025,700 persons were insured under the compulsory old-age pension system. Total contributions for the year amounted to 28,524,300 kronor; in 1937 incomplete returns showed contributions of about 43,108,000 kronor, and in 1938, of 41,374,000 kronor. Voluntary contributions in 1938, amounting to 4,586,226 kronor, were paid by 13,227 individuals. Applications for pensions were made during the year by 106,040 persons. Supplementary pensions and assistance paid during 1938 amounted to 141,728,000 kronor, basic pensions to 12,775,000 kronor, and pensions paid against voluntary contributions alone to 1,053,000 kronor.

¹ Sweden. Pensionsstyrelsen. *Folkpensioneringen år 1938*. Stockholm, 1939.

Pensions amounting to 500 kronor per year, are paid to persons who become completely blind or suffer from a substantial loss of vision, before reaching the age of 60. In 1938, such allowances were granted to 172 persons—93 men and 79 women. The total cost of pensions for the blind for the year was 1,630,000 kronor.

Aid to children was granted in the course of the year in 24,990 cases, covering 55,500 children. In 1,243 cases (1,997 children) both the father and mother were dead, in 11,705 cases (23,440 children) the father had died, and in 12,042 cases (30,063 children), the parents or guardians were permanently incapacitated for work. The total amount of the allowances for care of children during the year was 9,703,000 kronor, plus 1,776,000 kronor granted under the legislation formerly in force.

In order to prevent or shorten invalidity, treatment was provided for 7,732 persons in 1938. These persons were given care in hospitals, sanatoriums, or similar institutions, or received occupational training, at a cost of 2,490,000 kronor.

During 1938, 138 mutual-aid societies were registered, 58 of which were accepted as sick funds. The State contributed, during the year, 13,797,079 kronor to the sick funds, 553,313 kronor for maternity assistance, and 3,930,234 kronor for confinement allowances.

The Older Worker

CONCLUSIONS OF NEW YORK LEGISLATIVE COMMITTEE ON OLDER WORKERS

THE middle-aged jobless problem constitutes only a part of the whole enormous puzzle of unemployment. The first requisite for solving this successfully is adequate employment opportunity, which cannot be had without expanding industrial activity. "Undue, top-heavy, or artificial pressure in behalf of the middle-aged would result in senseless discrimination against youth." The problem is fundamentally industrial rather than social.

The above are the basic conclusions of the New York State Joint Legislative Committee on Discrimination in Employment of the Middle-Aged, which are set forth in its final report transmitted to the legislature March 21, 1940.

The committee further holds that, in this matter of discrimination against older workers, the problem must be attacked on two major fronts: (1) Employers must be ready to hire; (2) The jobless must be qualified to be hired. Upon one or the other of these two outstanding requirements must sooner or later be centered all the recommendations and conclusions contained in this report.

The findings of the committee, with reference to some of the 21 alleged causes of discrimination discovered, are summarized below.

Liability of Older Workers to Accident and Occupational Disease

The complaint by employers that older workers have an undue number of accidents is reported as unfounded so far as is shown by data now available. The committee was not able to ascertain from any source the number of workers by age groups in compensable industries in New York State, and without such data it is not possible to find out the proportion to whom accidents occur in each age group. The committee strongly recommends that the State department of labor make a survey to discover the exact age distribution of workers in compensable industries.

According to statistics furnished by the Federal Social Security Board, approximately two-thirds of the workers in industry in November 1937 were under 45 years of age, and two-thirds of the compensa-

tion cases reported were among workers under that age, which would seem to indicate that older wage earners do not have a disproportionate percentage of accidents.

It is no doubt true that the older man recovers more slowly than the younger man when he does have an accident, and the cost of his accidents is greater than that of the younger man, but the committee believes that when the basis for a true comparison is had it will show that one offsets the other, and that the older man will prove less expensive from the standpoint of accident cost than the younger man.

The committee concedes that middle-aged workers are more susceptible to vocational diseases than younger workers. This is particularly true in the case of unskilled wage earners. However, the New York State Labor Department records from 1933 to 1937 show that only about one in a hundred cases compensated were for such cause. So far as the committee has been able to ascertain, no break-down of the data on occupational diseases, by ages, has been made.

It has been repeatedly alleged that the representatives of insurance companies suggest indirectly to employers that the latter should not hire older workers. While the committee has no positive proof of this practice, it was considered advisable to write to the New York State Commissioner of Insurance to have his department look into the matter and see that any such tactics are discontinued, adding, "We have no doubt that in isolated cases at least such a practice exists, even though it may not be widespread."

To correct the condition resulting from the refusal of employers to take on men who have minor disabilities, because of increased compensation-insurance risk, the committee recommends the creation of "a special fund under the workmen's compensation law by apportioning the moneys already being collected under section 15, subdivision 8, thereof, which fund could be used to compensate second-injury cases which have a direct causal relationship to the pre-existing and established injury. All other injuries that are not traceable to or are not the direct result of a pre-existing disability, should be compensated in the usual manner."

Physical Fitness

The committee is of the opinion that physical unfitness in older workers is their greatest handicap in getting jobs, and reiterates its previous recommendation relative to the physical repair of adult unemployed persons. In this connection the committee presents a copy of its recommendation to the legislature for amending the State public-health act.

Displacement by Modern Machinery

Unrefuted evidence was received by the committee that many older workers are unemployed as the result of modern machinery and

accelerated speed in industry. This is particularly true in the case of the "assembly line" and the "stretch-out" system. The depression which began in 1929 increased the drive for the modernization of plants and equipment, and taxes on wages to support social legislation further intensified that drive.

New processes of production have simplified work, and in many cases eliminated the need for skilled workers. Expert craftsmen have also been eliminated when industries have gone out of business as a result of changes in styles and modes.

This does not mean that there are going to be fewer and fewer jobs until the middle-aged man is entirely eliminated and the younger man finds it is increasingly difficult to find a job. Despite all our labor saving machines, statistics show that there were a greater percentage of the population employed in the United States in industry in 1930 than ever before, and it is thought that the 1940 census will show a further increase, especially if business holds up to its present level.

In the judgment of the committee, the greater mechanization of industry "should not prove to be too serious a problem if we will only take notice of what is occurring and make plans to take care of the men displaced, by retraining them along lines which will again enable them to be absorbed in industry." This calls, however, for a much better statistical picture of industry than is available at present.

The Preference for Younger Persons

In regard to the charge that industry prefers younger men, who will accept lower wages, and can be trained more easily and dismissed more readily, the committee is of the opinion that this preference determines the practice only in those industries where competition is so great that the very existence of the industry seems to depend on such policy. In an attempt to remedy this procedure, the committee advocates the extension of the widely known Wadsworth-Rochester Employment Plan formulated by the Industrial Management Council of Rochester after consideration of the recommendations of the chairman of the New York Joint Legislative Committee on Discrimination in Employment of the Middle-Aged.

This scheme, as set forth on March 24, 1939, includes the maintenance of "a balance between older and younger groups approximating the working age groups of the community. In this way no discrimination can exist against any one age group."

Hiring.—Sound employment policy must take various qualifications into account, not age alone.

Retention in service.—When business conditions necessitate a reduction in force the selection of workers for lay-off should take into consideration the same factors as in hiring, to which should be added that of comparative length of service.

Retraining.—To give practical effect to a policy of retention in service, a program of retraining and reassignment of older workers is desirable. Such a program should include:

(a) Determination of jobs of limited requirements which workers of decreased productivity in their regular occupations may perform with reasonable efficiency without loss of individual and group morale.

(b) Retraining of workers so far as practicable.

(c) Counsel incapacitated workers to take advantage of all present and future rehabilitation facilities, either public or private.

After being approached by the New York Joint Legislative Committee, the Associated Industries of New York State, Inc., with a membership of 1,456 employers and a combined force of 600,000 employees, adopted this formula in the latter part of 1939.

The committee feels that this is one of its most outstanding contributions toward solving the baffling problem which it has had under consideration, and points out that hundreds of other organizations could be induced to adopt the Wadsworth-Rochester Plan if time permitted.

In certain occupations the public prefers younger people, and the employer must meet such wishes. Considerable testimony has been given the committee in regard to the lack of demand for waitresses who are no longer young and attractive. The same situation is said to exist in regard to clerks in stores and, on the whole, to all positions dealing immediately with the general public. However, despite the numerous complaints in this connection against department stores, the committee believes that the hiring policy of the larger, well-established type of department store is highly reasonable.

Office workers and stenographers also report that they are unable to get positions when they become middle-aged, and employment offices have verified these reports. Moreover, hosts of others in similar occupations have told the same story.

The committee holds that where a trade depends more on thoughtful application of the work at hand than on manual dexterity and agility of limbs, "there is no reason to say that the older worker cannot be trained just as readily as the younger man." Furthermore, the committee reports that it has received no convincing evidence that older workers are not as efficient as younger men. Exceptions are made, however, of some jobs where older men cannot expect to compete with younger men.

Importance of Training and Retraining

It is claimed that middle-aged joblessness is frequently due to lack in present educational requirements. The committee holds that the older man without educational background comparable to high-school or trade-school qualifications is very difficult to train in precision work. It is also alleged that some of the middle-aged have not education enough to write legibly or figure accurately or to do

the simple recording so often required. These are well-founded claims, as revealed by statistics on education.

Future tendencies all point to a continuing growth of higher standards in business and industry. This is in harmony with a constant increase in general education requirements, all of which are an important factor in training. It is believed by some authorities that the middle-aged man of the next generation will be far better qualified educationally to hold his job than his counterpart in this generation. His tenure, too, will be strengthened by the fact that a net decline in births will make his services more in demand.

It is not possible to estimate accurately how many expert craftsmen have lost their skills during the depression. It is thought, however, that the number is very large. Various employers, however, have informed the committee that craftsmen of this type can easily be retrained to their previous skills in a very brief period. At every opportunity, the committee has urged such retraining upon employers. "How extensive this alleged shortage of skilled mechanics is in the State of New York, and the United States, no one seems to know. It undoubtedly is extensive and would appear to be acute if we had a healthy prolonged upturn in business."

The committee believes the first thing to be done is to make a complete survey of the State's need for skilled labor and of the available supply. The Government should then cooperate with industry and organized labor for the adequate training of a sufficient number of apprentices.

In December 1939, approximately 400,000 applicants were registered with the State Employment Service of New York City, of whom about 271,000, or two-thirds, were men. The males 40 years old or over numbered 131,000, and women in that age group, 32,000. While one-fourth of the women were 40 years of age or over, almost one-half of the males were in this age group.¹ In 1930, men 40 years of age and over constituted 39 percent of the gainful workers of New York City. The proportion of male applicants in the same age group registered in the State Employment Service in New York City in December 1939, was 48 percent.

The committee concludes that the accusations before it that industry has failed to train employees for usefulness in middle age are undoubtedly well founded.

The solution of the problem of the older worker does not lie entirely in the establishment of liberal initial hiring policies. An equally important factor is the development of those policies which provide for the retention of the older individual in employment and eliminate discrimination merely because of age * * *.

There is much evidence to indicate that a substantial percentage of workers do not lose their effectiveness with advancing years, but are able to carry on satisfactorily in their field of work until retirement. Thus the problem of retraining concerns largely that group of older workers who have lost their full usefulness, but who have not reached the retirement age.

¹ Other findings in the survey were given in the *Monthly Labor Review*, issue of April 1940.

In illustration of what may be accomplished by a retraining policy, the program of the Eastman Kodak Co., Rochester, New York, is cited.

Legislation Barring Civil-Service Discrimination

In 1938, the committee succeeded in securing the passage of a bill which prohibited the placing of arbitrary age limits as eligibility requirements for State, county, and municipal civil-service positions in New York State, except for certain positions requiring extraordinary physical effort.

On February 7, 1940, through the efforts of the committee, a resolution was passed unanimously by both houses of the New York State Legislature which read in part as follows:

Whereas, not only the committee but industry, labor, and those connected with the civil service have hailed the salutary effect of this legislative restriction and have pointed out the progressive record of New York State in this regard compared to the regulations of the Federal Civil Service Commission; therefore be it

* * * * *

Resolved, That the Congress of the United States be, and hereby is, respectfully memorialized to enact similar legislation without delay, to the end that discrimination against older persons in the Federal Civil Service be abolished and that the work of public and private agencies in behalf of the middle-aged worker be enhanced by the good example set by the Federal government.

Other Subjects Considered

Among other subjects taken up in the report under review were the psychological factors involved in the discrimination against older workers, the attitude of labor unions on the subject, employer-employee cooperation, self-help organizations, and the Man-Market-ing Clinic.

Education and Training

CAA CIVILIAN PILOT TRAINING PROGRAM

FEW industries have had greater promise of growth than the one which centered around the private ownership and use of aircraft. Yet on August 22, 1938, when the United States Civil Aeronautics Authority began to function, only 9,556 certificated aircraft, exclusive of air-line equipment, were in use in the United States. Out of a population of 130 millions, only 21,118 individuals had pilot certificates. These facts and (except where otherwise noted) the following information on the Civilian Pilot Training Program of the Civil Aeronautics Authority, are taken from the first annual report of that Authority for the fiscal year ended June 30, 1939, including a review of additional activities to November 1939.

1938-39 Experimental Program

In the fall of 1938, a sum of \$100,000 was allocated from NYA funds for the carrying out of an experimental civilian pilot training program at 13 colleges in the United States during the scholastic year 1938-39.

This experimental program was very successful. The colleges designated for participation gave their full cooperation. The institutions selected were: University of Alabama, University of Kansas, University of Michigan, University of Minnesota, New York University, University of North Carolina (State College at Raleigh), University of Washington, Georgia School of Technology, Massachusetts Institute of Technology, Pomona Junior College, Purdue University, San Jose State College, and Texas A. & M. College (Arlington Tex. Branch).

Of 320 students selected for training, over 95 percent were found to have enough aptitude to complete the course in about 38 hours of flying time and 72 hours of ground instruction and to qualify with high ratings for private pilot certificates.

In February 1939, the President, in his message to Congress on the improvement of the air defenses of the Nation, requested Congress to authorize the establishment of a civilian air pilot training program on a full-scale basis during the scholastic year 1939-40. On June 27, 1939, the Civilian Pilot Training Act was passed. Instead of establishing new Government bureaus or new training facilities, the plan

formulated by the Civil Aeronautics Authority called for the placing of much of the administrative work and the ground instruction in the hands of existing colleges and universities, and for conducting the actual flying instruction in nearby commercial flying schools. Later in 1939, Congress appropriated \$4,000,000 for the civilian pilot training program.

Getting the Program Under Way

As soon as the funds were appropriated by Congress, the Authority began to select the colleges, approve the flying schools, and prepare the requisite manuals and instruction material for the qualification of some 10,000 young Americans as private pilots by June 30, 1940. By October 31, 1939, formal selection had been made of 404 universities and colleges for participation in the training program. The assigned student quotas for these institutions totaled 8,460 trainees.

The greater number of these universities and colleges had been furnished with study manuals and instruction material, and a start had been made on the 72-hour course of ground-school work designed to give a solid foundation for the flight-instruction part of the training program.

By that time the great majority of these universities and colleges had also tentatively selected nearby commercial flying schools. These schools were at once examined by the Civil Aeronautics Authority staff to make sure that they were properly prepared to follow in a thorough and conservative manner the exact procedure of the course in flight training as it was set forth in the manual prepared by experts in the Authority.

At the time of the preparation of the first annual report of the Authority, each part of the work was progressing in such a way as to promise that by the close of November 1939, some 435 universities and colleges would have been designated for participation in the program, and the total quota of new students allocated. Furthermore it seemed certain that by the close of November 1939 flight instruction would have been started in most of the schools.

Extent of Participation

No effort was spared to insure the widest possible extension of this program, which now embraces all the States of the Union and Alaska, Hawaii, and Puerto Rico. The list of participating educational institutions includes many of the oldest universities in the United States, and practically every State university and engineering school of importance. Moreover, many small colleges, and colleges mainly concerned with teachers' education, are participating. Five colleges exclusively for women were designated, and the authorities of coeducational schools were allowed, at their own discretion, to accept

women for the courses in question up to 10 percent of their quotas. Five colleges for the education of members of the colored race were also designated. Plans were developed to launch, as soon as the college program was under way, a supplementary program in college extension schools, general trade schools, and commercial schools, for airmen, to insure that at least 5 percent of the persons trained under the over-all program will be persons who are not college students.

The Authority considers that it has a sound backing for its belief that this program will add the maximum number of new pilots possible, with the appropriation available, to the register of certified airmen. Furthermore, every effort is being put forth under the program to equip thoroughly trainees with the basic principles of aviation theory and practice.

Research

With a view to making sure that this training course is the safest and most adequate that can be attained, the Authority has undertaken a research program relative to civilian pilot training. In this connection, the cooperation of the National Research Council, an agent of the National Academy of Sciences, has been secured. Upon the Authority's request, that council has appointed a special committee, composed of 18 experts in aviation, general physiology, medicine, psychology, and the analysis of vocational aptitudes. Various practical problems have already been selected for study by the committee. Research work will be conducted at well-equipped university laboratories. Many highly skilled research workers in such laboratories have already asked permission to work on problems in connection with the flight training being carried on at their universities. By having these studies made in university laboratories already equipped with instruments and expert workers, the Authority will not be burdened with the expense of establishing its own laboratories. By utilizing existing facilities for research, the Authority was in a position to organize even these parts of the civilian pilot training program along the same lines as the actual work of instruction.

It seems clear from the work already done by the committee that these investigations will form a real contribution to existing knowledge of the physiological and psychological factors involved in determining aptitude for gaining pilot skill. With such knowledge, methods of flight instruction can be improved, not only for later use in this program, but throughout all flying instruction of any type. The resulting effect upon the general safety of aviation should undoubtedly be an important one. It also holds promise of eventually resulting in substantial savings in the expenditure of Governmental funds.

In the course of the Congressional hearings which preceded the passage of the Civilian Pilot Training Act, the proposal for such a research program was commended by Army and Navy officials as

being planned to provide information which would facilitate their selecting as trainees for military and naval piloting only candidates with special flying aptitudes. In this way these officials might well be able to avoid the expense of months of training for individuals who might not have the requisite qualities for completing their training course.

Outlook for 1940-41

The Chairman of the Civil Aeronautics Authority announced on June 3, 1940,¹ that steps were to be taken at once to provide primary training for 45,000 new pilots by July 1, 1941. By June 30, 1940, under the Civilian Pilot Training Program, 9,810 new pilots will have been turned out.

From June 15 to September of the current year, 15,000 pilots will receive primary training under the Civilian Pilot Training Program, and secondary instruction will be made available to 1,000 students who have already had elementary training. Refresher courses will be given to 500 of this year's instructors in order to qualify them as secondary instructors.

In the fall semester of the next school year, 15,000 more primary pilots are to be trained, and 3,000 of those who have completed their primary training successfully will receive secondary instruction. Refresher courses will be given to an additional 1,000 primary instructors. The program for the 1941 spring semester includes the training of 15,000 additional primary pilots and 5,000 secondary pilots. The combined primary and secondary courses, covering a minimum of 80 hours, are regarded as "equivalent to the Army and Navy primary flight-instruction stages of 65 and 72 hours respectively."

The Chairman of the Authority also states that the agency is planning to " 'salvage' the experience of thousands of civilian pilots who had begun flying careers at their own expense but who for one reason or another have allowed their pilots' certificates to lapse."

Some 5,000 active and inactive pilots with commercial ratings are to be given 25-hour refresher courses. Some 7,000 inactive private pilots are to be given 15-hour refresher courses. Twenty-five-hour refresher courses are to be made available to approximately 5,000 solo pilots. A special 15-hour course will be given to 25,000 students who will have qualified as private pilots under the Civilian Pilot Training Program but who are not immediately selected for the secondary training.

Several hundred additional colleges and aviation-operating companies have sent in applications for participation in the enlarged program, as have also thousands of individual candidates who have not been able up to this time to secure training because of the limitation of funds. Colleges and operating companies which desire to have a

¹ U. S. Civil Aeronautics Authority. Press release, June 3, 1940, Washington.

part in the expanded program should make application to the Senior Private Flying Specialist in charge of the program for their respective districts. Individuals who wish to take the flight-training course should get in touch with the nearest college or operating company included in the program.



NYA GUIDANCE AND PLACEMENT PROGRAM

FOR all youth, without regard to their need or relief status, who have never had the opportunity to secure aid in the matter of selecting a vocation, the National Youth Administration has prepared and published almost 100 industrial and occupational studies.¹ These pamphlets contain not only detailed descriptions of the kinds of work called for in each industry and occupation, but also of the duties, the training required, the job in relation to opportunities for advancement, and the wages or salaries for the specified employment. These studies are available for the youth or teachers who may desire them. In 11 States classes on job information or occupations have been specially organized for analysis and discussion, talks are given by local industrial leaders, and movies concerning industry are shown. Weekly programs on jobs are also being broadcast in 18 States. In general, these take the form of talks by individuals from various occupational fields. Furthermore, in a dozen cities where technical aid has been made available by active cooperating sponsors, special consultation services have been established to analyze the preferences and talents of youth in quest of jobs and to give them information on opportunities for employment and training.

Previous to the creation of the National Youth Administration, only one State—New York—had a special division for placing juniors. On September 1, 1939, approximately 3½ years after the assignment of the first NYA placement counselor to a public employment office in March 1936, the number of cities in which junior-placement services were in operation was 144, distributed among as many as 41 States.

To show the value and need of such junior services, the National Youth Administration, cooperating with the State employment services, began to assign junior-placement counselors to public employment offices. However, by September 1, 1939, the National Youth Administration was paying the salaries of junior-placement counselors in only 63 of the 144 cities. In 30 of the other urban centers, the State employment services had recognized the importance of having NYA counselors, and were paying their salaries. In the remaining 51 cities, the State employment services had themselves

¹ U. S. National Youth Administration. Division of Information. General summary [of activities]. Washington, 1939.

established junior-placement services and were using NYA manuals of operation and technical aid in organizing and in personnel training.

These placement services have been in operation from 2 to 42 months. During these periods counselors have been receiving the applications of youth for jobs, and have been interviewing these young persons in regard to their experience and abilities and trying to find suitable private industrial jobs for them.

Of 549,000 youths registered by these counselors, 219,000 were placed in private employment. Approximately 112,000 employers were visited by the counselors in soliciting jobs for young applicants.

Industrial Accidents

INDUSTRIAL INJURIES IN THE UNITED STATES DURING 1939

By MAX D. KOSSORIS AND SWEN KJAER, *U. S. Bureau of Labor Statistics*

Summary

ABOUT 1,600,000 persons in industry were killed or injured during 1939, according to estimates of the United States Bureau of Labor Statistics. Of the estimated 16,400 fatalities or permanent total disabilities, 15,000 involved employed workers and 1,400 self-employed workers or proprietors. About 109,400 persons, employed and self-employed, suffered some partial but permanent impairment, and another 1,477,700 were temporarily but totally disabled.

These figures represent increases over those for 1938 for all types of disability except death and permanent total disability, for which there is no difference between the 1939 and 1938 experiences. On the other hand, there appear to have been during 1939 a larger proportion of permanent impairments and temporary total disabilities. Against a total of 98,900 permanent injuries in 1938, estimates place the 1939 number at 109,400. Similarly, the 1939 estimate of temporary total disabilities is 1,477,700, compared with the 1938 estimate of 1,260,300. These increases are due in part to an increase of about 2 percent in employment and in part to increases in the frequency rates of industrial injuries.

The survey of 26,994 identical establishments reporting for both 1938 and 1939 revealed a general upward trend in frequency rates. For the manufacturing group of industries, the rate increased from 15.07 to 15.43. This increase was accompanied by an increase in employment in these reporting establishments from 3,453,000 in 1938 to 3,741,000 in 1939, and an increase in employee-hours worked from 6,195 million to 7,184 million. The total number of disabling injuries in the reporting manufacturing establishments increased from 87,975 to 102,084. Expressed in terms of percentages, employment in these identical establishments increased by 8 percent; employee-hours worked, by 16 percent; and the number of disabling injuries also, by 16 percent. For the entire group of nearly 27,000 establishments, including both manufacturing and nonmanufacturing, the results are

much the same: an employment increase of 7 percent, an employee-hour increase of 13 percent, and an increase of injuries of 14 percent.

In 1939, the average time loss per injury in manufacturing was 106 days, and the average time loss per worker employed, 2.9 days. The time lost increased from nearly 11,684,000 days in 1938 to nearly 12,612,000 days in 1939. For the manufacturing group of industries, the increase was from 9,807,000 to 10,826,000 days. But because of a balancing increase in exposure, the severity rate rose only slightly—from 1.62 to 1.64.

As in the past, logging experienced the highest frequency rates both in 1939 and 1938. The frequency rate of 112.36 for 1939 is above the very high 1938 rate of 107.47. Similarly, the severity rate of 19.18, indicating a time charge of 19.18 days for every 1,000 hours worked, exceeds the 1938 rate of 17.09. The construction industry, with considerably lower rates, nevertheless exceeded those of every industry except logging. Its 1939 frequency rate was 61.84 and its severity rate 6.82. As was true of logging, the frequency rate represents an increase over that of 58.63 for 1938. The severity rate, however, remained identical for both years (6.82).

Among the industries included in the survey for the first time, the finance, insurance, and real-estate group had the lowest frequency rate, 3.90. Comparable rates for other newly added groups are 11.26 for wholesale establishments, 9.33 for retail stores (including restaurants with a rate of 12.34), and hotels with 14.65.

Estimates of Disabling Injuries During 1939

The national experience during 1939 has already been summarized. It is stated in greater detail in table 1. Footnotes indicate the probable degree of accuracy and were necessitated by the fact that the data on which these estimates were based differed greatly in their comprehensiveness.

Following the established practice, the table shows separately the disabling injuries to employed workers and to self-employed workers or proprietors. The total of all occupational injuries is obtained by adding the totals of the two groups. In agriculture and in mining and quarrying it was not possible to segregate the two, and in the railroads and public-utility industries there obviously are no self-employed workers.

It may be of some assistance to indicate the composition of some of these industry groups. Included in mining and quarrying is the production of petroleum. The public-utilities group includes the telephone, light, power and gas, and streetcar and bus transportation industries. Included in miscellaneous transportation are taxi driving, trucking, water and air transportation, interstate bus lines, pipe lines,

and longshoremen. The heterogeneous large services and miscellaneous industries group includes, among others, finance, insurance and real estate, government, educational and professional services, hotels, laundries and cleaning establishments, recreation, building services, and nursing.

The data indicate that although fatal injuries were no more numerous in 1939 than in 1938, nonfatal injuries increased by about 230,000. Responsible for this increase were (1) an increase in employment, and (2) an increase in the frequency of disabling accident occurrence per million hours worked.

TABLE 1.—*Estimated Number of Disabling Injuries During 1939, by Industry Groups*

Industry group	Number of injuries					
	Total	To employees	To self-employed	Total	To employees	To self-employed
	All disabilities			Death and permanent total disability		
All industries.....	1,603,500	1,430,300	173,200	16,400	15,000	1,400
Agriculture ¹	257,300	² 257,300	-----	4,300	² 4,300	-----
Mining and quarrying ³	91,000	² 91,000	-----	1,600	² 1,600	-----
Construction ⁴	404,700	366,300	38,400	3,600	3,200	400
Manufacturing ⁵	286,200	268,000	18,200	1,600	1,500	100
Public utilities ⁶	21,000	21,000	-----	500	500	-----
Trade—wholesale and retail ⁶	200,800	157,400	43,400	1,800	1,400	400
Railroads ⁷	34,500	34,500	-----	800	800	-----
Miscellaneous transportation ⁶	54,400	36,800	17,600	800	600	200
Services and miscellaneous industries ⁶	253,600	198,000	55,600	1,400	1,100	300
Permanent partial disabilities				Temporary total disabilities		
All industries.....	109,400	94,600	14,800	1,477,700	1,320,700	157,000
Agriculture ¹	13,000	² 13,000	-----	240,000	² 240,000	-----
Mining and quarrying ³	2,700	² 2,700	-----	86,700	² 86,700	-----
Construction ⁴	18,100	16,100	2,000	383,000	347,000	36,000
Manufacturing ⁵	17,600	16,500	1,100	267,000	250,000	17,000
Public utilities ⁶	500	500	-----	20,000	20,000	-----
Trade—wholesale and retail ⁶	30,000	31,000	8,000	160,000	125,000	35,000
Railroads ⁷	1,700	1,700	-----	32,000	32,000	-----
Miscellaneous transportation ⁶	1,600	1,200	400	52,000	35,000	17,000
Services and miscellaneous industries ⁶	15,200	11,900	3,300	237,000	185,000	52,000

¹ Based on fragmentary data.

² Includes self-employed.

³ Based largely on Bureau of Mines data.

⁴ Included are injuries to workers on CCC and WPA construction projects amounting to 400 fatalities, 3,100 permanent partial, and 71,000 temporary total disabilities.

⁵ Based on comprehensive survey.

⁶ Based on small sample studies.

⁷ Based on Interstate Commerce Commission data.

As in 1938, construction accounts for the largest number of disabling injuries, 404,700. Of these, 3,600 resulted fatally, 18,100 in permanent impairment, and 383,000 in temporary total disability. Data for agriculture are very meager, but available sources indicate that the fatality total is approximately 4,300. Nonfatal injuries have been estimated at 253,000. Manufacturing, with 286,200 disabilities, ranked third in number of total injuries, but had only 1,600 fatalities.

It had, however, the second highest number of permanent injuries, exceeded only by wholesale and retail trade. Services and miscellaneous industries accounted for 253,600 disabilities, 1,400 of them fatal. Wholesale and retail trade, with 200,800 injuries, had 1,800 fatalities, 200 more than manufacturing.

Survey Data

THE ENTIRE GROUP

The survey data presented in table 2 for 1939 in comparison with 1938 includes a number of industries not covered in data for earlier years. Some of these are entirely new, and others have been separated from the miscellaneous industry groups because the reporting samples were large enough to be treated separately. The total number of identical establishments reporting for both years is 26,994. It was necessary to exclude from the data the reports of several thousand establishments which could not furnish 1938 data.

It should also be noted that this relatively large group of establishments, of which more than 19,000 were in manufacturing industries, reported voluntarily both their exposures, in terms of employment and employee-hours worked, and their disabling injuries. The direct reporting of disabling injuries represents a drastic change in the Bureau's method of collecting industrial-injury data, and permits issuing a report considerably in advance of what would have been possible under the earlier method of obtaining these data from State workmen's compensation boards. Furthermore, it eliminates the necessity of estimating the number of the so-called "waiting-period" cases, for which no reports were required in a considerable number of industrially important States.

In several industries, particularly in public utilities and construction, firms were counted as establishments because of the difficulty of defining "establishment" and ascertaining the number involved. If each municipality with public-utility systems were counted separately, as well as every site of construction, the number of reporting establishments would run well over 30,000.

In the entire group surveyed, employment stood at 4,542,000 in 1939 as against 4,250,000 in 1938. With this 7-percent increase went a rise of 13 percent in employee-hours worked, from 7,762 million to 8,760 million, and an increase of disabling injuries of 14 percent, from 103,436 to 118,387. The number of fatalities and permanent total disabilities increased from 721 to 809, permanent partial disabilities from 5,352 to 6,116, and temporary total disabilities from 97,363 to 111,462. Because some of the newly canvassed industries represent samples too small to justify using them for weighting purposes, no frequency and severity rates have been computed for the entire group.

MANUFACTURING INDUSTRIES

The 19,423 identical manufacturing establishments reporting for 1938 and 1939 experienced an increase in the over-all frequency rate from 15.07 to 15.43, but practically no change in the severity rate, which increased slightly from 1.62 to 1.64. The frequency rate, measuring the number of disabling injuries per million employee-hours worked, was computed by weighting the rate of each group according to employment. The severity rate, measuring the days of time charge or loss per 1,000 employee-hours, was similarly computed.

In the entire manufacturing group surveyed, employment increased from 3,453,000 to 3,741,000, or by 8 percent. This change was accompanied by a 16-percent increase in employee-hours worked, from 6,195 million to 7,184 million, and an increase of disabling injuries of 16 percent, from 87,975 to 102,084.

As in earlier years, the industries in the "lumber and its products" group contained the highest frequency and severity rates.¹ For the entire group, the frequency and severity rates are 46.70 and 6.01. For logging, however, the frequency rate is 112.36 and the severity rate is 19.18. These rates represent increases over the very high 1938 rates of 107.47 and 17.09, and are nearly twice as high as the next highest frequency rate of 51.48 for sawmills and three times as high as the severity rate for that industry. The sawmill frequency rate, in turn, is at least twice as high as that of any of at least four-fifths of all other manufacturing industries.

Other manufacturing industries with high frequency rates are fertilizer, 26.35; canning, 26.99; slaughtering and meat packing, 24.72; sugar refining, 28.31; fabricated structural steel, 34.85; forging, 32.46; foundries, 33.15; planing mills, 29.45; pulp mills, 35.59; brick, tile and terra cotta, 37.12; and steam fittings, 26.76.

In most of the manufacturing industries, changes in the frequency rates from those of 1938 were relatively small. Industries with sizable increases in frequency rates are cutlery, enameling, hardware, ornamental metal work, tools, leather, fabricated structural steel, brick, tile and terra cotta, furniture, textile machinery, folding boxes, corrugated and fiber boxes, pottery, and nonferrous metal products. Notable decreases occurred in the agricultural machinery and ship-building industries.

Industries with low frequency rates are explosives, with a rate of 5.66, a considerable increase over the 1938 rate of 3.62; electric equipment, 5.60; cement, 3.16, a considerable reduction from the 1938 rate of 4.15; men's clothing, 6.18; women's clothing, 4.29; coke ovens (connected with steel mills) 3.36; and tobacco products, 4.12, a substantial reduction from the 1938 rate of 5.53.

¹ A study of industrial injuries in the lumber industry will be released shortly.

NONMANUFACTURING INDUSTRIES

The nonmanufacturing industry with the most severe injury experience during 1939 is construction. For all types of construction, the frequency rate is 61.84, somewhat of an increase over the 1938 rate of 58.63, and the severity rate, 6.82, unchanged from 1938. But within the construction group, heavy engineering had the very high rate of 93.86, somewhat higher than the 1938 rate of 92.99. The severity rate, however, was somewhat lower, as indicated by the change from 14.64 to 13.59. Highway construction had 68.32 disabling injuries per million employee-hours, and a time charge of 6.73 days per thousand employee-hours worked. In comparison, the 1938 frequency and severity rates are 73.12 and 8.66, respectively. Building construction, with a frequency rate of 48.24, had the lowest rate in the construction group—but a higher rate than any other industry surveyed except logging and sawmills.

The 1939 injury rates for the public-utilities group are somewhat lower than those for 1938. The frequency rate dropped from 8.53 to 8.24, and the severity rate from 1.35 to 1.11. The lowest rate in the group is that for the telephone industry, in which 271,000 employees, working 495 million hours, experienced only 1,166 disabling injuries, with a resulting frequency rate of 2.36, and a severity rate of 0.23. Streetcar and bus transportation show the highest frequency rates, 17.58 and 15.50, respectively. The frequency rates for electric light and power and for gas utilities are practically the same—10.51 and 10.72. The rate for electric light and power utilities remains practically unchanged from the 1938 rate of 10.73, but that for the gas utilities shows an increase over the 1938 rate of 8.89.

The finance, insurance, and real-estate group of 520 establishments with 14,000 employees in 1939, working 28 million hours, is one of the groups newly added to the survey. Its 1939 rate is 3.90, an increase over the 1938 rate of 3.36.

Wholesale and retail trade are two more new groups in the survey. The wholesale group, with 22,000 employees in 1939, has a frequency rate of 11.26, as against the 1938 rate of 9.71. Retail stores, excluding restaurants, and with a 1939 employment of 61,000, have a rate of 8.77, a slight increase over the 1938 rate of 8.27. The 362 establishments carrying on both wholesale and retail functions (about half of which were in the lumber and building-material category), having 7,000 employees, had a bad enough accident experience to result in a frequency rate of 25.62. This rate is considerably above that of 22.06 for the preceding year.

Hotels, also newly added, experienced very little change in the frequency rate, which is 14.65 for 1939, and stood at 14.14 for 1938. Dry-cleaning establishments, with the low rate of 7.16, nevertheless experienced a sharp increase from the rate of 4.73 in 1938. The rate for laundries increased less sharply, from 6.02 to 6.92.

TABLE 2.—*Injury Rates and Injuries by Extent of Disability for 26,994 Identical Establishments, 1938 and 1939*

1939

Industry	Number of establishments	Number of employees (in thousands)	Employment hours worked (in millions)	Number of disabling injuries			Total time lost (days)	Frequency rate ²	Severity rate ³	
				Total	Resulting in—					
					Death and permanent total disability ¹	Permanent partial disability				Temporary total disability
All industries.....	26,994	4,542	8,760	118,387	(78) 809	6,116	111,462	12,611,506		
Manufacturing										
Total, manufacturing.....	19,423	3,741	7,184	102,084	(73) 627	5,782	95,675	10,825,809	¹ 15.43	² 1.64
Chemical products.....	1,594	256	505	5,051	(6) 70	292	4,689	886,719	¹ 10.03	² 1.83
Druggist preparations.....	237	26	52	466	3	7	456	27,703	8.88	.53
Explosives.....	49	8	15	87	7	17	63	61,191	5.66	3.98
Fertilizers.....	363	16	29	767	(1) 11	18	738	117,175	26.35	4.03
Paints and varnishes.....	391	25	50	502	3	17	482	48,357	9.99	.96
Petroleum refining.....	108	65	127	1,104	13	94	997	217,597	8.69	1.71
Rayon and allied products.....	25	37	71	519	4	29	486	78,835	7.36	1.12
Soap.....	79	15	31	304	(1) 5	42	257	84,877	9.84	2.75
Not elsewhere classified.....	342	64	129	1,302	(4) 24	68	1,210	250,984	10.08	1.94
Food products.....	2,362	290	583	12,213	(4) 39	524	11,650	940,928	¹ 18.92	² 1.30
Baking.....	649	51	108	1,279	6	67	1,206	102,407	11.80	.94
Canning and preserving.....	443	47	75	2,015	2	53	1,960	97,463	26.99	1.31
Confectionery.....	221	30	58	717	2	17	698	28,534	12.32	.49
Flour, feed, and other grain-mill products.....	495	27	59	1,156	(2) 6	34	1,116	94,883	19.56	1.61
Slaughtering and meat packing.....	198	103	218	5,381	(2) 17	305	5,059	474,100	24.72	2.18
Sugar refining.....	59	15	29	828	5	34	789	103,874	28.31	3.55
Not elsewhere classified.....	297	17	36	837	1	14	822	39,667	23.31	1.10
Iron and steel and their products.....	2,556	686	1,321	19,680	(22) 189	1,408	18,083	2,671,812	¹ 17.59	² 2.13
Iron and steel.....	288	392	752	6,362	(4) 109	652	5,601	1,376,746	8.46	1.83
Cutlery and edge tools.....	86	9	18	334	2	12	320	24,803	18.72	1.39
Enameling and galvanizing.....	59	11	21	382	0	25	357	28,521	18.37	1.37
Fabricated structural steel.....	265	19	38	1,317	(1) 16	81	1,220	181,303	34.85	4.80
Forgings.....	101	15	28	900	2	48	850	56,055	32.46	2.02
Foundries.....	537	67	126	4,183	(9) 26	132	4,025	346,596	33.15	2.73
Hardware.....	149	24	48	717	(3) 4	62	651	73,482	14.95	1.53
Ornamental metalwork.....	93	4	8	186	1	14	171	19,059	22.79	2.34
Plumbers' supplies.....	79	26	49	717	(2) 7	40	670	90,202	14.62	1.84
Stamped and pressed metal products.....	216	20	40	847	2	93	752	95,617	21.24	2.40
Steam fittings and apparatus.....	174	20	38	1,012	(2) 8	46	958	119,066	26.76	3.15
Stoves and furnaces, not electric.....	163	25	47	1,091	(1) 2	55	1,034	61,383	23.05	1.30
Tinware.....	64	15	29	396	0	57	339	46,017	13.54	1.57
Tools, except edge tools.....	100	10	20	366	5	24	337	51,959	18.21	2.58
Wire and wire products.....	61	9	18	277	2	19	256	37,247	15.25	2.05
Not elsewhere classified.....	121	22	41	593	3	48	542	63,756	14.42	1.55
Leather and its products.....	563	140	269	2,716	(1) 8	100	2,608	183,647	¹ 9.24	² 1.60
Leather.....	131	29	57	1,286	4	44	1,238	83,804	22.68	1.48
Boots and shoes.....	378	108	205	1,362	(1) 3	50	1,309	88,310	6.63	.43
Not elsewhere classified.....	54	4	7	68	1	6	61	11,533	9.30	1.58
Lumber and its products.....	1,917	172	328	11,970	(7) 93	670	11,207	1,422,061	¹ 46.70	² 6.01
Logging.....	101	12	21	2,305	(1) 37	72	2,196	393,481	112.36	19.18
Planing mills.....	441	24	47	1,376	5	94	1,277	122,807	29.45	2.63
Sawmills.....	369	36	65	3,346	(3) 30	160	3,156	431,815	51.48	6.64
Furniture.....	698	78	154	3,031	(1) 12	256	2,763	292,942	19.72	1.91
Not elsewhere classified.....	308	22	42	1,912	(2) 9	88	1,815	181,016	45.65	4.32

See footnotes at end of table.

TABLE 2.—Injury Rates and Injuries by Extent of Disability for 26,994 Identical Establishments, 1938 and 1939—Continued

1939—Continued

Industry	Number of establishments	Number of employees (in thousands)	Employment-hours worked (in millions)	Number of disabling injuries			Total time lost (days)	Frequency rate ¹	Severity rate ²	
				Total	Resulting in—					
					Death and permanent total disability ¹	Permanent partial disability				Temporary total disability
Manufacturing—Continued										
Machinery (not transportation)	2,263	523	1,019	12,204	(5) 41	957	11,206	1,183,254	³ 11.07	³ 1.12
Agricultural machinery and tractors	128	58	112	2,063	4	207	1,852	212,696	18.35	1.89
Construction and mining machinery	233	33	64	1,469	4	69	1,396	86,463	23.03	1.36
Electrical equipment and supplies	267	179	344	1,928	(2) 14	205	1,709	285,540	5.60	.83
Food-products machinery	121	11	23	398	(1) 1	43	354	40,729	17.55	1.80
Metalworking machinery	234	35	73	1,075	1	66	1,008	82,667	14.73	1.13
Textile machinery	129	17	34	455	0	22	433	18,263	13.47	.54
Special industry machinery, not elsewhere classified	322	39	76	1,219	3	110	1,106	129,762	16.06	1.71
General industrial machinery	615	102	199	2,706	9	182	2,515	237,643	13.57	1.19
Machinery, not elsewhere classified	74	38	72	517	(2) 4	45	468	67,531	7.15	.93
Repair shops	140	10	21	374	1	8	365	21,960	17.42	1.02
Paper and allied products	768	124	251	5,219	(2) 27	226	4,966	518,579	³ 20.50	³ 1.95
Pulp	19	5	8	296	3	12	281	35,459	35.59	4.26
Paper	167	40	82	1,836	12	72	1,752	189,642	22.53	2.33
Both paper and pulp	59	32	65	1,272	(1) 7	58	1,207	166,171	19.66	2.57
Folding boxes	97	6	12	276	1	9	266	22,255	23.77	1.92
Set-up boxes	218	10	20	231	0	10	221	8,255	11.78	.42
Corrugated and fiber boxes	78	10	20	475	(1) 1	17	457	30,225	23.53	1.50
Not elsewhere classified	130	22	45	833	3	48	782	66,572	18.57	1.48
Printing and publishing	2,443	129	278	1,899	(1) 8	109	1,782	193,410	³ 6.95	³ 7.72
Book and job	1,554	59	118	944	4	65	875	110,739	8.03	.94
News and periodical	738	60	1.40	823	3	33	787	69,465	5.90	.50
Not elsewhere classified	151	10	21	132	(1) 1	11	120	13,206	6.33	.63
Rubber and its products	57	47	90	886	2	43	841	72,440	³ 9.75	³ 7.79
Rubber tires	25	27	53	545	1	24	520	44,824	10.24	.84
Rubber goods (other than tires)	32	19	37	341	1	19	321	27,616	9.30	.75
Stone, clay, and glass products	926	125	236	5,295	(16) 47	133	5,115	532,032	³ 21.20	³ 2.24
Brick, tile, and terra cotta	483	34	62	2,315	(1) 15	44	2,256	181,857	37.12	2.92
Cement	111	18	35	111	5	23	83	74,631	3.16	2.13
Glass	115	44	83	1,595	(3) 10	41	1,544	136,280	19.33	1.65
Pottery	66	18	35	527	⁴ (12) 14	5	508	93,791	15.22	2.71
Not elsewhere classified	151	12	22	747	3	20	724	45,473	34.66	2.11
Textiles and their products	2,908	691	1,276	13,105	(4) 41	482	12,582	919,693	³ 9.00	³ 5.58
Carpets and rugs	44	30	55	844	2	72	770	87,729	15.23	1.58
Clothing—men's	517	76	131	811	2	14	795	37,964	6.18	.29
Clothing—women's	518	45	81	348	1	6	341	19,689	4.29	.24
Cotton goods	459	227	426	5,358	(1) 20	188	5,150	362,580	12.58	.85
Dyeing and finishing	176	36	69	1,054	(1) 6	52	996	111,292	15.19	1.60
Knit goods	519	114	209	1,294	2	20	1,272	48,354	6.18	.23
Silk and rayon products, not elsewhere classified	127	29	53	615	1	10	604	23,315	11.55	.44
Woolen goods	321	104	192	2,204	(1) 5	106	2,093	193,624	11.50	1.01
Not elsewhere classified	227	31	59	577	(1) 2	14	561	35,146	9.84	.60

See footnotes at end of table.

TABLE 2.—*Injury Rates and Injuries by Extent of Disability for 26,994 Identical Establishments, 1938 and 1939—Continued*

1938—Continued

Industry	Number of establishments	Number of employees (in thousands)	Employment hours worked (in millions)	Number of disabling injuries			Total time lost (days)	Frequency rate ²	Severity rate	
				Total	Resulting in—					
					Death and permanent total disability ¹	Permanent partial disability				Temporary total disability
Manufacturing—Continued										
Transportation equipment.....	344	389	698	8,770	(3) 41	576	8,153	899,618	³ 13.08	³ 1.54
Motor vehicles.....	236	332	583	6,820	(3) 24	441	6,355	615,889	11.69	1.06
Shipbuilding.....	54	35	70	1,307	13	90	1,204	183,336	18.55	2.60
Railroad equipment.....	31	12	24	352	3	18	331	46,228	14.57	1.91
Aircraft ³	14	8	16	240	1	23	216	51,489	14.59	3.13
Not elsewhere classified.....	9	2	4	51	0	4	47	2,676	13.62	.71
Miscellaneous manufacturing.....	722	170	330	3,076	(2) 21	262	2,793	401,616	³ 10.40	³ 1.36
Coke ovens ⁴	35	10	22	73	3	6	64	27,037	3.36	1.24
Tobacco products.....	215	48	85	349	(1) 1	33	315	42,488	4.12	.50
Radio and phonograph.....	48	31	59	336	(1) 1	38	297	30,857	5.70	.52
Smelting and refining (nonferrous).....	101	35	74	1,028	7	80	941	161,378	13.94	2.19
Nonferrous metal products.....	107	20	39	711	4	80	627	87,584	18.33	2.26
Miscellaneous manufacturing.....	216	26	52	579	5	25	549	52,272	11.19	1.01
Nonmanufacturing										
Construction.....	⁷ 920	44	70	4,311	(4) 40	160	4,111	475,692	61.84	6.82
Building.....	⁷ 740	27	42	2,042	(3) 14	58	1,970	184,326	48.24	4.35
Heavy engineering.....	⁷ 64	9	16	1,464	(1) 20	73	1,371	212,052	93.86	13.59
Highway.....	⁷ 116	8	12	805	6	29	770	79,314	68.32	6.73
Public utilities.....	⁷ 807	547	1,070	8,034	124	102	7,808	1,057,640	³ 8.24	³ 1.11
Communication:										
Telephone.....	⁷ 27	271	495	1,166	15	3	1,148	113,949	2.36	.23
Transportation.....	⁷ 118	69	156	2,290	19	41	2,230	222,475	14.68	1.43
Streetcar.....	⁷ 23	15	33	585	4	5	576	46,367	17.58	1.39
Bus.....	⁷ 57	17	40	614	4	16	594	54,802	15.50	1.38
Both streetcar and bus.....	⁷ 38	37	83	1,091	11	20	1,060	121,306	13.13	1.46
Electric power and gas.....	⁷ 335	190	384	3,803	82	55	3,666	660,668	9.91	1.72
Electric light and power.....	⁷ 210	101	208	2,185	61	31	2,093	462,418	10.51	2.23
Gas.....	⁷ 69	14	29	306	2	4	300	27,621	10.72	.97
Both electric and gas.....	⁷ 56	75	147	1,312	19	20	1,273	170,629	8.90	1.16
Utilities, not elsewhere classified.....	⁷ 327	17	35	775	8	3	764	60,548	22.32	1.74
Finance, insurance, and real estate.....	520	14	28	109	1	0	108	7,765	3.90	.28
Wholesale trade.....	599	22	44	494	1	8	485	18,782	11.26	.43
Retail trade.....	1,734	71	150	1,393	4	13	1,376	61,834	³ 9.33	³ 1.41
Restaurants.....	299	10	21	263	1	2	260	11,401	12.34	.53
Retail, not elsewhere classified.....	1,435	61	129	1,130	3	11	1,116	50,433	8.77	.39
Both wholesale and retail trade.....	362	7	15	394	2	9	383	22,794	25.62	1.48
Services.....	2,629	95	200	1,568	(1) 10	42	1,516	141,190	³ 9.53	³ 1.08
Hotels.....	134	6	12	181	0	0	181	1,759	14.65	.14
Laundry and dry cleaning.....	1,813	73	157	1,106	(1) 6	36	1,064	96,186	³ 6.97	³ 1.58
Dry cleaning.....	557	12	26	187	2	4	181	18,902	7.16	.72
Laundry.....	898	40	85	589	1	22	566	46,172	6.92	.54
Both laundry and dry cleaning.....	358	21	45	330	(1) 3	10	317	31,112	7.30	.69
Services, not elsewhere classified.....	682	16	31	281	4	6	271	43,245	9.05	1.39

See footnotes at end of table.

TABLE 2.—*Injury Rates and Injuries by Extent of Disability for 26,994 Identical Establishments, 1938 and 1939—Continued*

1938

Industry	Number of establishments	Number of employees (in thousands)	Employment hours worked (in millions)	Number of disabling injuries			Total time lost (days)	Frequency rate ¹	Severity rate ²	
				Total	Resulting in—					
					Death and permanent total disability ¹	Permanent partial disability				Temporary total disability
All industries.....	26,994	4,250	7,762	103,436	(60) 721	5,352	97,363	11,683,702		
<i>Manufacturing</i>										
Total, manufacturing.....	19,423	3,453	6,195	87,975	(46) 538	5,004	82,433	9,806,750	¹ 15.07	² 1.62
Chemical products.....	1,594	247	476	4,827	(5) 63	271	4,493	825,642	¹ 10.24	² 1.80
Druggist preparations.....	237	25	50	405	2	14	389	39,465	8.07	.79
Explosives.....	49	7	13	47	5	3	39	32,477	3.62	2.50
Fertilizers.....	363	15	28	752	6	21	725	77,436	26.52	2.73
Paints and varnishes.....	391	24	48	442	(1) 7	19	416	83,260	9.16	1.72
Petroleum refining.....	108	66	123	1,097	(4) 22	81	994	282,586	8.92	2.30
Rayon and allied products.....	25	34	63	460	3	13	444	38,360	7.35	.61
Soap.....	79	16	31	287	0	38	249	38,741	9.14	1.23
Not elsewhere classified.....	342	61	120	1,337	18	82	1,237	233,317	11.17	1.95
Food products.....	2,362	282	577	12,185	(10) 64	532	11,589	1,132,280	¹ 19.16	² 1.82
Baking.....	649	50	106	1,316	11	66	1,239	182,755	12.39	1.72
Canning and preserving.....	443	45	78	2,127	(1) 5	54	2,068	120,108	27.26	1.54
Confectionery.....	221	31	62	674	4	37	633	69,884	10.84	1.12
Flour, feed, and other grain-mill products.....	495	26	57	1,182	(1) 10	30	1,142	114,117	20.78	2.01
Slaughtering and meat packing.....	198	99	210	5,242	(8) 25	289	4,928	507,407	25.00	2.42
Sugar refining.....	59	15	30	837	5	35	797	80,044	27.86	2.66
Not elsewhere classified.....	297	17	34	807	4	21	782	57,965	23.45	1.68
Iron and steel and their products.....	2,556	604	1,032	415,086	(13) 132	1,104	13,850	2,085,492	¹ 16.78	² 2.05
Iron and steel.....	288	337	557	4,737	(3) 87	477	4,173	1,095,048	8.50	1.96
Cutlery and edge tools.....	86	8	15	251	3	16	232	34,498	16.28	2.24
Enameling and galvanizing.....	59	10	18	300	2	31	267	47,978	16.85	2.69
Fabricated structural steel.....	265	17	33	1,024	4	50	970	75,998	31.29	2.32
Forgings.....	101	12	20	681	3	31	647	56,371	33.39	2.76
Foundries.....	537	59	98	3,080	(7) 18	98	2,964	290,417	31.31	2.65
Hardware.....	149	22	40	441	1	42	398	39,837	11.12	1.00
Ornamental metalwork.....	93	4	7	133	1	16	116	22,397	18.33	3.09
Plumbers' supplies.....	79	23	39	482	(3) 5	36	441	72,875	12.21	1.85
Stamped and pressed metal products.....	216	19	34	725	1	108	616	88,652	21.19	2.59
Steam fittings and apparatus.....	174	19	36	949	5	44	900	102,493	26.46	2.86
Stoves and furnaces, not electric.....	163	23	42	908	1	40	867	72,702	21.53	1.72
Tinware.....	64	14	27	378	0	48	330	39,723	13.77	1.45
Tools, except edge tools.....	100	9	17	228	0	16	212	15,583	13.69	.94
Wire and wire products.....	61	8	14	269	0	11	258	13,171	18.64	.91
Not elsewhere classified.....	121	19	33	500	1	40	459	47,749	15.37	1.47
Leather and its products.....	563	132	252	2,316	7	64	2,245	138,986	¹ 8.71	² 1.49
Leather.....	131	27	50	922	5	26	891	63,704	18.42	1.27
Boots and shoes.....	378	102	195	1,330	2	35	1,293	65,663	6.82	.34
Not elsewhere classified.....	54	4	6	64	0	3	61	9,619	9.85	1.48
Lumber and its products.....	1,917	165	317	11,430	(4) 81	632	10,717	1,329,544	¹ 45.88	² 5.48
Logging.....	101	11	19	1,994	(2) 24	87	1,883	317,007	107.47	17.09
Planing mills.....	441	23	47	1,452	(1) 7	80	1,365	120,866	30.84	2.57
Sawmills.....	369	35	67	3,816	22	158	3,636	398,282	56.61	5.91
Furniture.....	698	72	137	2,347	10	220	2,117	259,581	17.10	1.89
Not elsewhere classified.....	308	24	47	1,821	(1) 18	87	1,716	233,808	39.08	5.02
Machinery (not transportation)	2,263	498	898	10,933	(7) 50	833	10,050	1,273,876	¹ 11.02	² 1.32
Agricultural machinery and tractors.....	128	57	107	2,157	1	195	1,961	187,786	20.12	1.75
Construction and mining machinery.....	233	32	60	1,314	(1) 11	65	1,238	153,863	22.06	2.58

See footnotes at end of table.

TABLE 2.—Injury Rates and Injuries by Extent of Disability for 26,994 Identical Establishments, 1938 and 1939—Continued

1938—Continued

Industry	Number of establishments	Number of employees (in thousands)	Employment-hours worked (in millions)	Number of disabling injuries				Total time lost (days)	Frequency rate ²	Severity rate ³
				Total	Resulting in—					
					Death and permanent total disability ¹	Permanent partial disability	Temporary total disability			
Manufacturing—Continued										
Machinery (not transportation)—Continued.										
Electrical equipment and supplies.....	267	170	297	1,757	(3) 15	205	1,537	320,096	5.92	1.08
Food-products machinery.....	121	11	22	362	1	22	339	44,572	16.26	2.00
Metalworking machinery.....	234	31	59	878	(1) 4	41	833	80,500	14.79	1.36
Textile machinery.....	129	14	25	268	1	19	248	28,120	10.71	1.12
Special industry machinery, not elsewhere classified.....	322	38	72	1,032	4	74	954	115,943	14.34	1.61
General industrial machinery.....	615	96	171	2,332	(2) 6	158	2,168	232,936	13.63	1.36
Machinery, not elsewhere classified.....	74	38	66	443	3	42	398	62,628	6.76	.96
Repair shops.....	140	9	19	390	4	12	374	47,432	20.12	2.45
Paper and allied products.....	768	117	230	4,730	(1) 24	223	4,483	471,325	* 20.10	* 1.97
Pulp.....	19	4	7	274	1	11	262	31,286	36.53	4.17
Paper.....	167	38	75	1,744	(1) 9	67	1,668	158,353	23.39	2.12
Both paper and pulp.....	59	30	60	1,181	10	65	1,106	151,055	19.66	2.51
Folding boxes.....	97	5	11	190	0	6	184	6,114	18.02	.58
Set-up boxes.....	218	9	18	183	1	10	172	16,658	10.29	.94
Corrugated and fiber boxes.....	78	9	18	340	0	19	321	30,298	19.34	1.72
Not elsewhere classified.....	130	21	42	818	3	45	770	77,561	19.61	1.86
Printing and publishing.....	2,443	126	250	1,641	3	92	1,546	139,150	* 6.48	* .54
Book and job.....	1,554	57	114	763	2	50	711	75,924	6.71	.67
News and periodical.....	738	59	116	723	1	30	692	48,526	6.26	.42
Not elsewhere classified.....	151	10	21	155	0	12	143	14,700	7.43	.70
Rubber and its products.....	57	42	72	730	2	33	695	53,017	* 9.95	* .69
Rubber tires.....	25	25	42	471	2	22	447	38,613	11.15	.91
Rubber goods (other than tires).....	32	17	29	250	0	11	248	14,404	8.84	.49
Stone, clay, and glass products.....	926	111	198	3,898	(3) 34	112	3,752	405,671	* 18.90	* 1.97
Brick, tile, and terra cotta.....	483	29	51	1,573	(1) 17	35	1,521	158,679	30.92	3.12
Cement.....	111	17	32	133	4	26	103	64,021	4.15	2.00
Glass.....	115	38	67	1,291	5	42	1,244	96,187	19.30	1.44
Pottery.....	66	17	31	333	(1) 4	5	324	43,840	10.86	1.43
Not elsewhere classified.....	151	11	18	568	(1) 4	4	560	42,944	31.65	2.39
Textiles and their products.....	2,908	637	1,081	10,472	(1) 32	393	10,047	804,794	* 8.46	* .60
Carpets and rugs.....	44	24	41	646	2	37	607	66,914	15.83	1.64
Clothing—men's.....	517	73	114	634	2	27	605	42,964	5.59	.38
Clothing—women's.....	518	43	75	265	0	4	261	6,699	3.54	.09
Cotton goods.....	459	209	351	4,203	12	161	4,030	276,511	11.96	.79
Dyeing and finishing.....	176	34	61	931	7	51	873	156,124	15.16	2.54
Knit goods.....	519	105	186	1,206	2	26	1,178	57,787	6.49	.31
Silk and rayon products, not elsewhere classified.....	127	28	51	484	0	8	476	16,633	9.46	.33
Woolen goods.....	321	95	151	1,622	(1) 7	69	1,546	154,883	10.78	1.03
Not elsewhere classified.....	227	27	51	481	0	10	471	26,279	9.41	.51
Transportation equipment.....	344	336	528	7,026	25	487	6,514	723,596	* 13.86	* 1.51
Motor vehicles.....	236	291	441	5,388	11	382	4,995	497,730	12.22	1.13
Shipbuilding.....	54	26	50	1,119	12	76	1,031	172,125	22.19	3.41
Railroad equipment.....	31	11	22	301	2	10	289	29,784	13.79	1.36
Aircraft.....	14	6	12	165	0	15	150	20,020	14.16	1.72
Not elsewhere classified.....	9	2	3	53	0	4	49	3,937	16.91	1.26

See footnotes at end of table.

Industrial Accidents

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TABLE 2.—Injury Rates and Injuries by Extent of Disability for 26,994 Identical Establishments, 1938 and 1939—Continued
1938—Continued

Industry	Number of establishments	Number of employees (in thousands)	Employee-hours worked (in millions)	Number of disabling injuries				Total time lost (days)	Frequency rate ²	Severity rate ³
				Total	Resulting in—					
					Death and permanent total disability ¹	Permanent partial disability	Temporary disability			
<i>Manufacturing—Continued</i>										
Miscellaneous manufacturing	722	155	285	2,701	(2) 21	228	2,452	423,377	10.14	1.25
Coke ovens ⁴	35	10	17	63	(1) 3	8	52	32,054	3.76	1.92
Tobacco products	215	48	86	474	1	27	446	31,114	5.53	.36
Radio and phonograph	48	24	42	294	3	24	267	41,296	7.02	.99
Smelting and refining (nonferrous)	101	33	65	913	8	103	802	197,086	13.99	3.02
Nonferrous metal products	107	16	30	469	0	39	430	46,033	15.56	1.53
Miscellaneous manufacturing	216	24	45	488	(1) 6	27	455	75,794	10.82	1.68
<i>Nonmanufacturing</i>										
Construction	7 920	41	65	3,791	(5) 36	132	3,623	440,991	58.63	6.82
Building	7 740	25	40	1,750	(3) 13	41	1,696	154,987	43.63	3.87
Heavy engineering	7 64	7	12	1,135	(1) 16	54	1,065	178,694	92.99	14.64
Highway	7 116	8	12	906	(1) 7	37	862	107,310	73.12	8.66
Public utilities	7 807	549	1,068	8,224	(8) 136	159	7,929	1,254,546	8.53	1.35
Communication:										
Telephone	7 27	271	492	1,297	15	3	1,279	131,916	2.64	.27
Transportation	7 118	70	151	2,280	(4) 25	35	2,220	264,777	15.08	1.75
Streetcar	7 23	15	33	552	(2) 10	9	533	91,028	16.97	2.80
Bus	7 57	17	39	593	(1) 5	14	574	74,655	15.27	1.92
Both streetcar and bus	7 38	38	80	1,135	(1) 10	12	1,113	99,094	14.22	1.24
Electric power and gas	7 335	191	391	3,965	(4) 93	112	3,760	817,927	10.14	2.09
Electric light and power	7 210	102	211	2,263	52	54	2,157	465,823	10.73	2.21
Gas	7 69	14	28	253	(1) 2	6	245	19,775	8.89	.69
Both electric and gas	7 56	75	152	1,449	(3) 39	52	1,358	332,329	9.54	2.19
Utilities, not elsewhere classified	7 327	17	34	682	3	9	670	39,926	20.16	1.18
Finance, insurance, and real estate	520	14	28	94	0	3	91	4,185	3.36	.15
Wholesale trade	599	21	43	421	(1) 3	4	414	28,920	9.71	.67
Retail trade	1,734	70	147	1,273	1	8	1,264	31,422	8.67	.22
Restaurants	299	10	21	228	1	1	226	9,290	10.82	.44
Retail, not elsewhere classified	1,435	60	126	1,045	0	7	1,038	22,132	8.27	.18
Both wholesale and retail trade	362	7	15	323	4	4	315	30,899	22.06	2.11
Services	2,629	96	201	1,335	3	38	1,294	85,989	7.78	.40
Hotels	134	6	12	176	0	2	174	3,180	14.14	.26
Laundry and dry cleaning	1,813	74	158	949	3	31	915	69,682	5.74	.41
Dry cleaning	557	13	27	127	1	4	122	10,076	4.73	.37
Laundry	898	40	85	515	1	18	496	36,132	6.02	.42
Both laundry and dry cleaning	358	21	46	307	1	9	297	23,474	6.69	.51
Services, not elsewhere classified	682	16	30	210	0	5	205	13,127	6.94	.43

¹ Figures in parentheses show the number of permanent total disability cases included.

² The frequency rate is the average number of disabling injuries for each million employee-hours worked. The severity rate is the average number of days lost for each thousand employee-hours worked. The standard time-loss ratings for fatalities and permanent disabilities are given in Method of Compiling Industrial Injury Rates, approved by the American Standards Association, 1937.

³ Weighted by employment for manufacturing industries as shown by Census of Manufactures, 1937, and computed for 1939 by means of Bureau of Labor Statistics indexes of employment, and for nonmanufacturing industries by Bureau of Labor Statistics employment data.

⁴ All 12 permanent total disabilities were silicosis cases.

⁵ The experience of all aircraft establishments reporting for 1939 was: Employee-hours worked, 80,000,000; disabling injuries, 1,090; frequency rate, 13.60; and severity rate, 1.86.

⁶ Coke ovens operating in the iron and steel plants only.

⁷ Tabulated by company instead of establishment.

⁸ Weighted by employment for manufacturing industries as shown by Census of Manufactures, 1937, and computed for 1938 by means of Bureau of Labor Statistics indexes of employment, and for nonmanufacturing industries by Bureau of Labor Statistics estimates of employment.

Relation of Exposure, Frequency, and Time Loss

Changes for identical establishments in employee-hours worked, total number of disabling injuries, and time loss² are shown in table 3. By far the greatest number of industries—91—showed increases in employee-hours worked; only 15 showed decreases. In 4 more industries the change was less than one-half of 1 percent.

In most industries, increases in exposure were matched by increases in the number of injuries. Further, the increases in injuries often exceeded the increases in employee-hours worked, pointing the need for extra safety efforts when new employees are added. In the manufacture of paints and varnishes, for instance, a 4-percent increase in employee-hours was accompanied by a 14-percent increase in the number of injuries. Industries in which the percent of increase in injuries was at least double the percent of increase in employee-hours are cutlery and edge tools, with a 16-percent increase in employee-hours and a 33-percent increase in injuries; hardware, 21 and 63; ornamental metalwork, 12 and 40; plumbers' supplies, 24 and 49; leather, 13 and 39; furniture, 12 and 29; food-products machinery, 2 and 10; textile machinery, 35 and 70; special-industry machinery, 5 and 18; folding boxes, 10 and 45; set-up boxes, 10 and 26; corrugated and fiber boxes, 15 and 40; book and job printing, 3 and 24; brick, tile, and terra cotta, 23 and 47; pottery, 13 and 58; women's clothing, 8 and 31; silk and rayon products, n. e. c., 4 and 27; streetcar transportation, 2 and 6; bus transportation, 2 and 4; finance, insurance, and real estate, less than 0.5 and 16; wholesale trade, 1 and 17; restaurants, 1 and 15; retail stores (except restaurants), 2 and 8; and laundries, less than 0.5 and 14.

Conversely, it is interesting to note that where the exposure decreased, disabling injuries frequently decreased by a larger percentage than did employee-hours worked. For instance, the hour decrease in highway construction was 5 percent, but the injury decrease, 11 percent. In tobacco products, the respective decreases are 1 and 26; in planing mills, 1 and 5; and in sawmills, 4 and 12.

²In temporary total disabilities, the actual days lost are counted. In fatal and permanent injuries, lost time is computed on the basis of standard time charges.

TABLE 3.—Percent of Change in Hours Worked, Number of Disabling Injuries, and Time Loss, 1938 to 1939

Industry	Em- ployee- hours work- ed	Total num- ber of in- juries	Total time loss	Industry	Em- ployee- hours work- ed	Total num- ber of in- juries	Total time loss
<i>Manufacturing</i>				<i>Manufacturing—Continued</i>			
Chemical products:				Paper and allied products:			
Druggist preparations.....	+5	+15	-30	Pulp.....	+11	+8	+13
Explosives.....	+18	+85	+88	Paper.....	+9	+5	+20
Fertilizers.....	+3	+2	+51	Both paper and pulp.....	+8	+8	+10
Paints and varnishes.....	+4	+14	-42	Folding boxes.....	+10	+45	+264
Petroleum refining.....	+3	+1	-23	Set-up boxes.....	+10	+26	-50
Rayon and allied prod- ucts.....	+13	+13	+106	Corrugated and fiber boxes.....	+15	+40	-(¹)
Soap.....	-2	+6	+119	Not elsewhere classified.....	+8	+2	-14
Not elsewhere classified.....	+8	-3	+8	Printing and publishing:			
Food products:				Book and job.....	+3	+24	+46
Baking.....	+2	-3	-44	News and periodical.....	+21	+14	+43
Canning and preserving.....	-4	-5	-19	Not elsewhere classified.....	-(¹)	-15	-10
Confectionery.....	-6	+6	-59	Rubber and its products:			
Flour, feed, and other grain-mill products.....	+4	-2	-17	Rubber tires.....	+26	+16	+16
Slaughtering and meat packing.....	+4	+3	-7	Rubber goods (other than tires).....	+25	+32	+92
Sugar refining.....	-3	-1	+30	Stone, clay, and glass prod- ucts:			
Not elsewhere classified.....	+4	+4	-32	Brick, tile, and terra cotta.....	+23	+47	+15
Iron and steel and their prod- ucts:				Cement.....	+10	-17	+17
Iron and steel.....	+35	+34	+26	Glass.....	+23	+24	+42
Cutlery and edge tools.....	+16	+33	-28	Pottery.....	+13	+58	+114
Enameling and galvaniz- ing.....	+17	+27	-41	Not elsewhere classified.....	+20	+32	+6
Fabricated structural steel.....	+15	+29	+139	Textiles and their products:			
Forgings.....	+36	+32	-1	Carpets and rugs.....	+36	+31	+31
Foundries.....	+28	+36	+33	Clothing—men's.....	+16	+28	-12
Hardware.....	+21	+63	+84	Clothing—women's.....	+8	+31	+194
Ornamental metalwork.....	+12	+40	-15	Cotton goods.....	+21	+27	+31
Plumbers' supplies.....	+24	+49	+24	Dyeing and finishing.....	+13	+13	-29
Stamped and pressed metal products.....	+17	+17	+8	Knit goods.....	+13	+7	-16
Steam fittings and appa- ratus.....	+5	+7	+16	Silk and rayon products, not elsewhere classified.....	+4	+27	+40
Stoves and furnaces, not electric.....	+12	+20	-16	Woolen goods.....	+27	+36	+25
Tinware.....	+6	+5	+16	Not elsewhere classified.....	+15	+20	+34
Tools, except edge tools.....	+21	+61	+233	Transportation equipment:			
Wire and wire products.....	+26	+3	+183	Motor vehicles.....	+32	+27	+24
Not elsewhere classified.....	+26	+19	+34	Shipbuilding.....	+40	+17	+7
Leather and its products:				Railroad equipment.....	+11	+17	+55
Leather.....	+13	+39	+32	Aircraft.....	+41	+45	+157
Boots and shoes.....	+5	+2	+34	Not elsewhere classified.....	+19	-4	-32
Not elsewhere classified.....	+13	+6	+20	Miscellaneous manufacturing:			
Lumber and its products:				Coke ovens.....	+30	+16	-16
Logging.....	+11	+16	+24	Tobacco products.....	-1	-26	+37
Planing mills.....	-1	-5	+2	Radio and phonograph.....	+41	+14	-25
Sawmills.....	-4	-12	+8	Smelting and refining (non- ferrous).....	+13	+13	-18
Furniture.....	+12	+29	+13	Nonferrous metal prod- ucts.....	+29	+52	+90
Not elsewhere classified.....	-10	+5	-23	Miscellaneous manufac- turing.....	+15	+19	-31
Machinery (not transporta- tion):				<i>Nonmanufacturing</i>			
Agricultural machinery and tractors.....	+5	-4	+13	Construction.....	+8	+14	+8
Construction and mining machinery.....	+7	+12	-44	Building.....	+6	+17	+19
Electrical equipment and supplies.....	+16	+10	-11	Heavy engineering.....	+28	+29	+19
Food-products machinery.....	+2	+10	-9	Highway.....	-5	-11	-26
Metalworking machinery.....	+23	+22	+3	Public utilities:			
Textile machinery.....	+35	+70	-35	Communication:			
Special industry machin- ery, not elsewhere clas- sified.....	+5	+18	+12	Telephone.....	+1	-10	-14
General industrial ma- chinery.....	+17	+16	+2	Transportation.....	+3	+(¹)	-16
Machinery, not elsewhere classified.....	+10	+17	+8	Streetcar.....	+2	+6	-49
Repair shops.....	+11	-4	-54	Bus.....	+2	+4	-27
				Both streetcar and bus.....	+4	-4	+22

¹ Less than 0.5.

TABLE 3.—Percent of Change in Hours Worked, Number of Disabling Injuries, and Time Loss, 1938 to 1939—Continued

Industry	Em- ployee- hours work- ed	Total num- ber of in- juries	Total time loss	Industry	Em- ployee- hours work- ed	Total num- ber of in- juries	Total time loss
<i>Nonmanufacturing—Con.</i>				<i>Nonmanufacturing—Con.</i>			
Public utilities—Continued.				Both wholesale and retail trade.....	+5	+22	-26
Electric power and gas.....	-2	-4	-19	Services:			
Electric light and power.....	-1	-3	-1	Hotels.....	-1	+3	-45
Gas.....	+(¹)	+21	+40	Laundry and dry cleaning:			
Both electric and gas.....	-3	-9	-49	Dry cleaning.....	-3	+47	+88
Utilities, not elsewhere classified.....	+3	+14	+52	Laundry.....	-(¹)	+14	+28
Finance, insurance, and real estate.....	-(¹)	+16	+86	Both laundry and dry cleaning.....	-1	+7	+33
Wholesale trade.....	+1	+17	-35	Services, not elsewhere classified.....	+3	+34	+229
Retail trade:							
Restaurants.....	+1	+15	+23				
Retail, not elsewhere classified.....	+2	+8	+128				

¹ Less than 0.5.

Disability Distribution

For the entire group of more than 19,000 manufacturing establishments surveyed, the disability distribution for 1939 shows no change from that of 1938. Out of every 1,000 disabling injuries, each year shows 6 deaths and permanent total disabilities, 56 permanent partial injuries, and 938 temporary total disabilities. In the average time charge per permanent partial disability, there is practically no difference—997 days for 1939 and 999 for 1938. The average duration per temporary total disability, however, was only 18 days in 1939 as against 21 in 1938.

Manufacturing industries with high ratios of deaths and permanent total disabilities—and for which at least 300 injuries were reported—are fertilizers, with 14 deaths for every 1,000 injuries, a considerable increase over the figure of 8 for 1938; iron and steel, with 17, as against 18 in 1938; fabricated structural steel with 12, as against 4 in 1938; plumbers' supplies, with 10 in each year; logging, with 16 in 1939, as against 12 in 1938; pottery, with the very high ratio of 27, as against 12 in 1938; and shipbuilding, with 10 and 11 for 1939 and 1938, respectively. Among the nonmanufacturing industries having high fatality ratios are heavy engineering construction, with 14 in each year; telephone, which in spite of its very low frequency rates had 13 and 12 deaths and permanent total disabilities per 1,000 injuries in 1939 and 1938, respectively; and electric light and power, with 28 and 23.

Industries with sizable decreases in the fatality ratio are paints and varnishes, decreasing from 16 to 6; petroleum refining, from 20 to 12; construction and mining machinery, 8 to 3; streetcar transportation, 18 to 7; and wholesale trade, 7 to 2.

Although the entire manufacturing group showed no change in the ratio of permanent partial disabilities, a number of individual industries did. In the manufacture of fabricated structural steel, the ratio increased from 49 to 62, and the average time charge per injury from 667 to 809 days. In tinware manufacturing, there were 144 permanent partial disabilities per 1,000 injuries in 1939 as against 127 in 1938, with practically no increase in the average time charge. In boots and shoes, the ratio increased from 26 to 37, and the time charge from 899 to 1,022 days. Food-products machinery manufacturing had a very sizable increase, from 61 to 108, but a marked decrease in the average time charge, which dropped from 1,489 to 676 days. The ratio for carpets and rugs rose from 57 to 87, although accompanied by a drop in time charge from 1,153 to 890 days. An increase in the ratio for tobacco products from 57 to 95 went with an increase in time charge per injury from 667 to 968 days. Nonferrous metal products manufacturing also experienced a sharp increase, from 83 to 113, although the average time charge dropped from 983 to 695 days.

Some manufacturing industries, on the other hand, experienced marked decreases in their ratios of permanent partial disabilities. In plumbers' supplies manufacturing, the ratio dropped from 75 to 56; in stamped and pressed metal products, from 149 to 110; corrugated and fiber boxes, from 56 to 36; men's clothing, from 43 to 17; and in smelting and refining, from 113 to 78.

Among the nonmanufacturing industries, the ratios of permanent partial injuries are, with the exception of construction and the service industries, considerably lower than for the manufacturing industries. In building construction, the ratio increased from 23 to 28, in heavy engineering from 48 to 50, but in highway construction it decreased from 41 to 36.

Among the public utilities, bus transportation had the highest ratio in 1939, with a figure of 26. Electric light and power experienced a considerable reduction, from 24 to 14. In both industries, however, the average time charge per injury decreased sharply, in bus transportation from 2,061 to 1,069 days, and in electric light and power from 1,956 to 1,642 days.

TABLE 4.—Disability Distribution per 1,000 Injuries and Average Days Lost per Disability for Identical Establishments, 1938 and 1939

Industry	Number per 1,000 injuries						Average days lost per disability			
	Death and permanent total disability ¹		Permanent partial disability		Temporary total disability		Permanent partial disability		Temporary total disability	
	1939	1938	1939	1938	1939	1938	1939	1938	1939	1938
<i>Manufacturing</i>										
Total, manufacturing ²	6	6	56	56	938	938	997	999	18	21
Chemical products ²	15	16	64	58	921	926	1,290	1,264	19	24
Druggist preparations.....	6	5	15	35	979	960	600	1,593	12	13
Explosives.....	(3)	(2)	(3)	(3)	(2)	(2)	1,041	450	24	29
Fertilizers.....	14	8	23	28	963	964	2,136	1,345	17	18
Paints and varnishes.....	6	16	34	43	960	941	1,362	1,755	15	19
Petroleum refining.....	12	20	85	74	903	906	1,241	1,464	23	32
Rayon and allied products.....	8	7	56	28	936	965	1,571	981	19	17
Soap.....	(3)	(3)	(3)	(3)	(3)	(3)	1,201	870	17	23
Not elsewhere classified.....	18	13	52	61	930	926	1,231	1,169	19	24
Food products ²	4	6	42	44	954	950	866	1,143	16	18
Baking.....	5	8	52	50	943	942	661	1,386	18	20
Canning and preserving.....	1	2	26	25	973	973	1,035	1,059	16	16
Confectionery.....	3	6	24	55	973	939	397	945	14	17
Flour, feed, and other grain-mill products.....	5	8	29	25	966	967	1,175	1,078	17	19
Slaughtering and meat packing.....	3	5	57	55	940	940	994	964	14	16
Sugar refining.....	6	6	41	42	953	952	1,790	1,020	17	18
Not elsewhere classified.....	1	5	17	26	982	969	1,568	1,012	14	16
Iron and steel and their products ²	11	10	78	80	911	910	842	869	23	28
Iron and steel.....	17	18	102	101	881	881	839	865	31	38
Cutlery and edge tools.....	(2)	(2)	(3)	(3)	(2)	(2)	683	688	14	24
Enameling and galvanizing.....	(2)	(3)	(3)	(3)	(2)	(2)	926	969	15	22
Fabricated structural steel.....	12	4	62	49	926	947	809	667	16	19
Forgings.....	2	4	53	46	945	950	594	784	18	22
Foundries.....	6	6	32	32	962	962	915	958	17	20
Hardware.....	6	2	86	95	908	903	643	621	15	19
Ornamental metalwork.....	(3)	(2)	(3)	(3)	(3)	(3)	729	903	17	17
Plumbers' supplies.....	10	10	56	75	934	915	961	958	15	19
Stamped and pressed metal products.....	2	1	110	149	888	850	783	661	14	18
Steam fittings and apparatus.....	8	5	45	46	947	949	1,173	1,210	18	21
Stoves and furnaces, not electric.....	2	1	50	44	948	955	635	1,245	14	19
Tinware.....	0	0	144	127	856	873	696	688	19	20
Tools, except edge tools.....	(2)	(3)	(3)	(3)	(2)	(2)	609	706	18	20
Wire and wire products.....	(3)	(2)	(3)	(3)	(3)	(3)	1,095	768	17	18
Not elsewhere classified.....	5	2	81	80	914	918	791	830	14	19
Leather and its products ²	2	2	37	26	961	972	1,008	870	15	17
Leather.....	3	5	34	28	963	967	934	723	15	17
Boots and shoes.....	2	2	37	26	961	972	1,022	899	15	17
Not elsewhere classified.....	(3)	(3)	(3)	(3)	(2)	(2)	800	2,933	12	13
Lumber and its products ²	8	7	56	58	936	935	1,061	1,059	19	19
Logging.....	16	12	31	44	953	944	1,634	1,485	25	23
Planing mills.....	4	5	68	55	928	940	764	690	16	17
Sawmills.....	9	6	48	41	943	953	1,185	1,212	20	20
Furniture.....	4	4	84	94	912	902	712	754	14	16
Not elsewhere classified.....	5	10	46	48	949	942	1,068	1,084	18	18
Machinery (not transportation) ²	4	5	88	84	908	911	773	979	17	21
Agricultural machinery and tractors.....	2	(4)	100	90	898	910	781	763	15	17
Construction and mining machinery.....	3	8	47	49	950	943	607	1,011	15	18
Electrical equipment and supplies.....	7	9	106	117	887	874	794	929	23	26
Food-products machinery.....	3	3	108	61	889	936	676	1,489	16	17
Metalworking machinery.....	1	5	61	47	938	948	929	1,006	15	18
Textile machinery.....	(2)	(2)	(3)	(3)	(3)	(3)	573	921	13	19
Special industry machinery, not elsewhere classified.....	2	4	90	72	908	924	849	929	17	24
General industrial machinery.....	3	3	67	68	930	929	775	966	17	20
Machinery, not elsewhere classified.....	8	7	87	95	905	898	812	857	15	22
Repair shops.....	3	10	21	31	976	959	1,144	1,188	19	25

See footnotes at end of table.

TABLE 4.—Disability Distribution per 1,000 Injuries and Average Days Lost per Disability for Identical Establishments, 1938 and 1939—Continued

Industry	Number per 1,000 injuries						Average days lost per disability			
	Death and permanent total disability ¹		Permanent partial disability		Temporary total disability		Permanent partial disability		Temporary total disability	
	1939	1938	1939	1938	1939	1938	1939	1938	1939	1938
<i>Manufacturing—Continued</i>										
Paper and allied products ²	5	4	44	48	951	948	1,133	1,063	18	19
Pulp	(3)	(3)	(3)	(3)	(3)	(3)	954	1,695	21	25
Paper	7	5	39	38	954	957	1,207	1,049	18	20
Both paper and pulp	6	8	46	55	948	937	1,720	1,063	20	20
Folding boxes	(3)	(3)	(3)	(3)	(3)	(3)	1,372	450	15	19
Set-up boxes	(3)	(3)	(3)	(3)	(3)	(3)	495	775	15	17
Corrugated and fiber boxes	2	0	36	56	962	944	1,024	1,289	15	18
Not elsewhere classified	4	4	58	55	938	941	730	1,036	17	17
Printing and publishing ²	4	2	54	53	942	945	1,155	975	15	20
Book and job	4	3	69	66	927	931	1,143	993	14	20
News and periodical	4	1	40	41	956	958	1,167	958	16	20
Not elsewhere classified	8	0	83	77	909	923	436	1,013	20	18
Rubber and its products ²	3	2	50	44	947	954	978	862	20	19
Rubber tires	2	4	44	47	954	949	1,092	782	24	21
Rubber goods (other than tires)	(3)	(3)	(3)	(3)	(3)	(3)	874	936	16	17
Stone, clay, and glass products ²	15	11	46	50	939	939	1,189	1,285	19	22
Brick, tile, and terra cotta	6	11	19	22	975	967	1,352	954	14	15
Cement	(3)	(3)	(3)	(3)	(3)	(3)	1,807	1,375	37	42
Glass	6	4	26	33	968	963	1,198	967	18	21
Pottery	27	12	9	15	964	973	400	2,520	15	22
Not elsewhere classified	4	7	27	7	969	986	845	2,150	15	18
Textiles and their products ²	3	2	27	32	970	966	1,119	996	14	17
Carpets and rugs	2	3	85	57	913	940	890	1,153	15	20
Clothing—men's	2	3	17	43	981	954	1,107	811	13	15
Clothing—women's	(3)	(3)	(3)	(3)	(3)	(3)	1,617	600	12	16
Cotton goods	4	3	35	38	961	959	866	819	16	18
Dyeing and finishing	6	8	49	55	945	937	1,114	1,850	17	23
Knit goods	2	2	15	22	983	976	1,090	1,208	11	12
Silk and rayon products, not elsewhere classified	2	0	16	17	982	983	945	1,075	13	17
Woolen goods	2	4	48	43	950	953	1,177	1,126	19	23
Not elsewhere classified	3	0	24	21	973	979	1,043	1,580	15	22
Transportation equipment ²	5	3	68	71	927	926	905	836	22	26
Motor vehicles	4	2	65	71	931	927	782	802	20	25
Shipbuilding	10	11	69	68	921	921	756	909	31	30
Railroad equipment	9	7	51	33	940	960	1,006	370	31	49
Aircraft	(3)	(3)	(3)	(3)	(3)	(3)	1,830	1,167	16	17
Not elsewhere classified	(3)	(3)	(3)	(3)	(3)	(3)	375	788	25	16
Miscellaneous manufacturing ²	6	6	101	80	893	914	857	906	16	19
Coke ovens	(3)	(3)	(3)	(3)	(3)	(3)	983	1,550	49	32
Tobacco products	3	2	95	57	902	941	968	667	14	16
Radio and phonograph	(3)	(3)	(3)	(3)	(3)	(3)	546	783	14	17
Smelting and refining (nonferrous)	7	9	78	113	915	878	1,253	1,237	20	27
Nonferrous metal products	6	0	113	83	881	917	695	983	13	18
Miscellaneous manufacturing	9	12	43	55	948	933	592	1,170	14	18
<i>Nonmanufacturing</i>										
Construction	9	9	37	35	954	956	960	1,148	20	20
Building	7	7	28	23	965	970	1,118	1,107	18	19
Heavy engineering	14	14	50	48	936	938	777	1,059	26	24
Highway	7	8	36	41	957	951	1,107	1,323	15	19
Public utilities ²	16	16	11	16	973	968	1,095	1,391	22	25
Communication:										
Telephone	13	12	3	2	984	986	300	900	20	31
Transportation:										
Streetcar	8	11	18	15	974	974	1,301	1,757	25	24
Bus	7	18	9	16	984	966	1,430	2,200	26	21
Both streetcar and bus	7	8	26	24	967	968	1,069	2,061	23	28
	10	9	18	11	972	980	1,455	1,071	25	24

See footnotes at end of table.

TABLE 4.—*Disability Distribution per 1,000 Injuries and Average Days Lost per Disability for Identical Establishments, 1938 and 1939—Continued*

Industry	Number per 1,000 injuries						Average days lost per disability			
	Death and permanent total disability ¹		Permanent partial disability		Temporary total disability		Permanent partial disability		Temporary total disability	
	1939	1938	1939	1938	1939	1938	1939	1938	1939	1938
<i>Nonmanufacturing—Continued</i>										
Public utilities—Continued.										
Electric power and gas.....	22	23	14	28	964	949	1,685	1,623	21	21
Electric light and power.....	28	23	14	24	958	953	1,642	1,956	22	22
Gas.....	(²)	(²)	(²)	(²)	(²)	(²)	2,525	650	18	16
Both electric and gas.....	14	27	15	36	971	937	1,585	1,389	20	19
Utilities, not elsewhere classified.....	10	4	4	13	986	983	367	872	15	21
Finance, insurance, and real estate.....	(²)	(²)	(²)	(²)	(²)	(²)	0	800	16	20
Wholesale trade.....	2	7	16	10	982	983	563	1,025	17	16
Retail trade ²	3	1	10	7	987	992	1,284	817	16	15
Restaurants.....	(²)	(²)	(²)	(²)	(²)	(²)	1,050	600	13	12
Retail, not elsewhere classified.....	3	0	10	7	987	993	1,327	857	16	16
Both wholesale and retail trade.....	5	12	23	12	972	976	622	450	14	16
Services.....	10	(²)	20	24	970	976	1,885	1,672	17	15
Hotels.....	(²)	(²)	(²)	(²)	(²)	(²)	0	750	10	10
Laundry and dry cleaning ²	4	3	33	34	963	963	1,318	1,012	16	19
Dry cleaning.....	(²)	(²)	(²)	(²)	(²)	(²)	1,100	375	14	21
Laundry.....	2	2	37	35	961	963	1,380	1,192	17	18
Both laundry and dry cleaning.....	9	3	30	29	961	968	790	1,367	16	17
Services, not elsewhere classified.....	(²)	(²)	(²)	(²)	(²)	(²)	2,400	2,010	18	15

¹ Each death or permanent total disability is charged with a time loss of 6,000 days.² Data weighted by employment for manufacturing industries as shown by Census of Manufactures, 1937, and computed for 1938 and 1939 by means of Bureau of Labor Statistics indexes of employment, and for non-manufacturing industries by Bureau of Labor Statistics employment data.³ Computations not given because of small number of injuries.⁴ Less than 0.5.

Trend of Disabling Injuries Since 1926

In table 5 and the chart on page 106 are shown the frequency rates of industrial disabilities in manufacturing from 1926 through 1939. The data give frequency rates, i. e., number of disabilities per million employee-hours worked, for all disabling injuries, death and permanent total disability, permanent partial disability, and temporary total disability.

Some explanation is needed concerning the rates given in view of the facts that (1) the data prior to 1936 were based on reports of between 6,000 to 7,000 establishments in 30 manufacturing industries, but rates published since then have been based on the returns of about 20,000 establishments in about 80 industries; and (2) the Bureau, because of its practice of publishing rates for identical establishments in each pair of successive years since 1934, has published two sets of frequency rates for each year, one for comparison with the preceding year and the second for comparison with the following year.

In the rates given here, the weighted rates prior to 1936 have been adjusted to the larger reporting sample. This was done by comparing

the two groups of industries for the years 1936-38. It was found that the frequency rate for the larger group was about 86 percent of the frequency rate for the 30-industry group in each of the 3 years. By the application of this constant, earlier rates were adjusted to the base of the larger exposure. In choosing between the two sets of rates for any one year, the data for the larger exposure were used.

Analysis of the table and chart reveals a definite downward trend in the over-all frequency rate. The curve has its ups and downs, but the general direction is downward. The high point of 20.78 applies to 1926. The low point of 15.07 was reached in 1938, with the 1939 rate of 15.43 ranking second lowest. On the basis of these rates, there were in 1938 and 1939 only 3 disabling injuries per million hours worked in all manufacturing industries for every 4 in 1926, or a reduction of 25 percent in accident frequency.

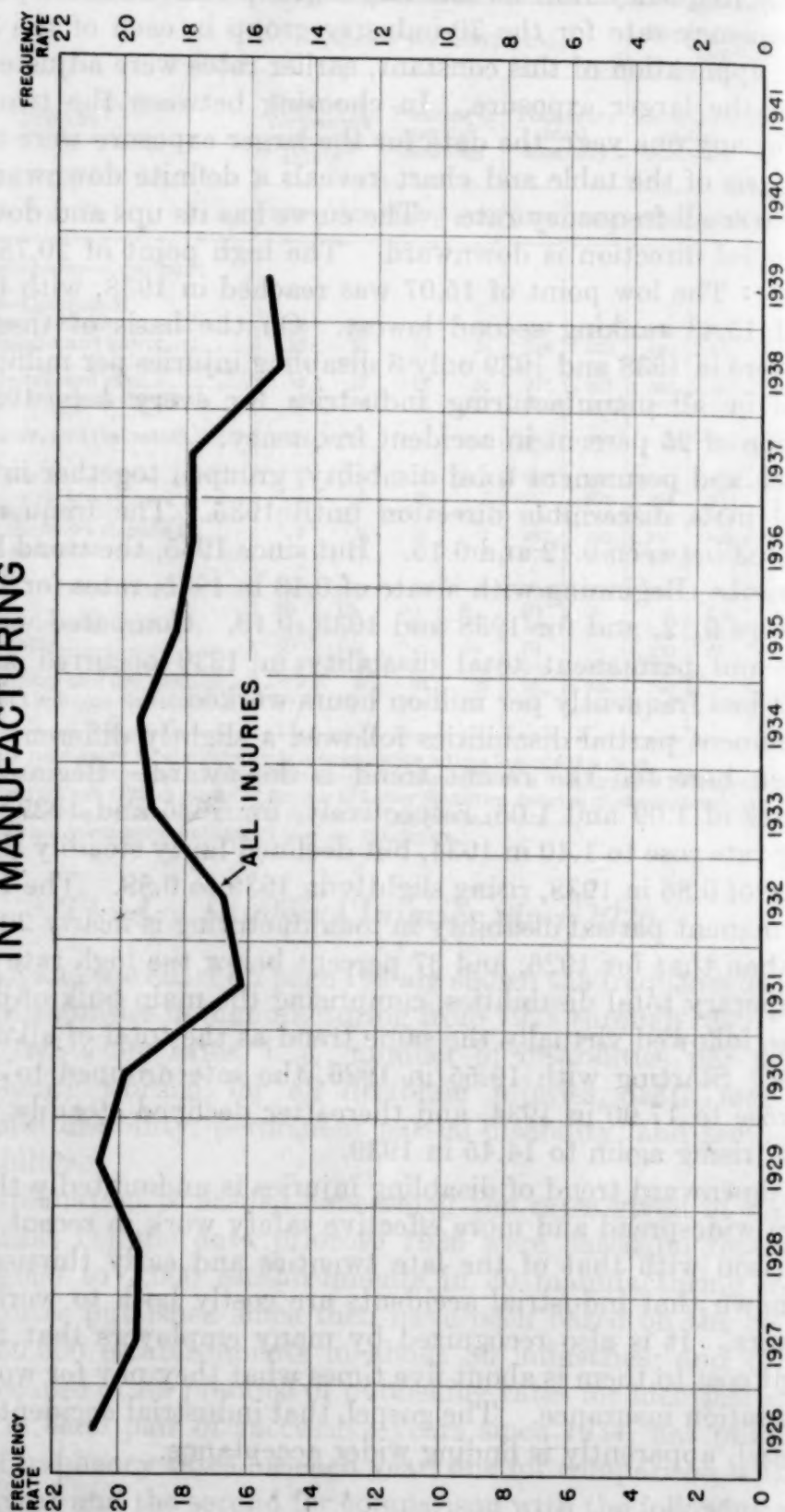
Death and permanent total disability, grouped together in table 5, showed little discernible direction until 1935. The frequency rate fluctuated between 0.12 and 0.15. But since 1935, the trend has been downward. Beginning with a rate of 0.13 in 1935, rates for 1936 and 1937 were 0.12, and for 1938 and 1939, 0.10. Compared with 1926, deaths and permanent total disability in 1939 occurred about 30 percent less frequently per million hours worked.

Permanent partial disabilities followed a slightly different pattern, although here too the recent trend is downward. Beginning with low rates of 1.09 and 1.05, respectively, for 1926 and 1927, the frequency rate rose to 1.40 in 1934, but declined fairly steadily thereafter to a low of 0.86 in 1938, rising slightly in 1939 to 0.88. The 1939 rate for permanent partial disability in manufacturing is nearly 20 percent lower than that for 1926, and 37 percent below the high rate of 1934.

Temporary total disabilities, comprising the main bulk of disabling injuries, followed virtually the same trend as the total of all disabling injuries. Starting with 19.55 in 1926, the rate dropped to 14.96 in 1931, rose to 17.90 in 1934, and thereafter declined steadily to 13.32 in 1938, rising again to 14.45 in 1939.

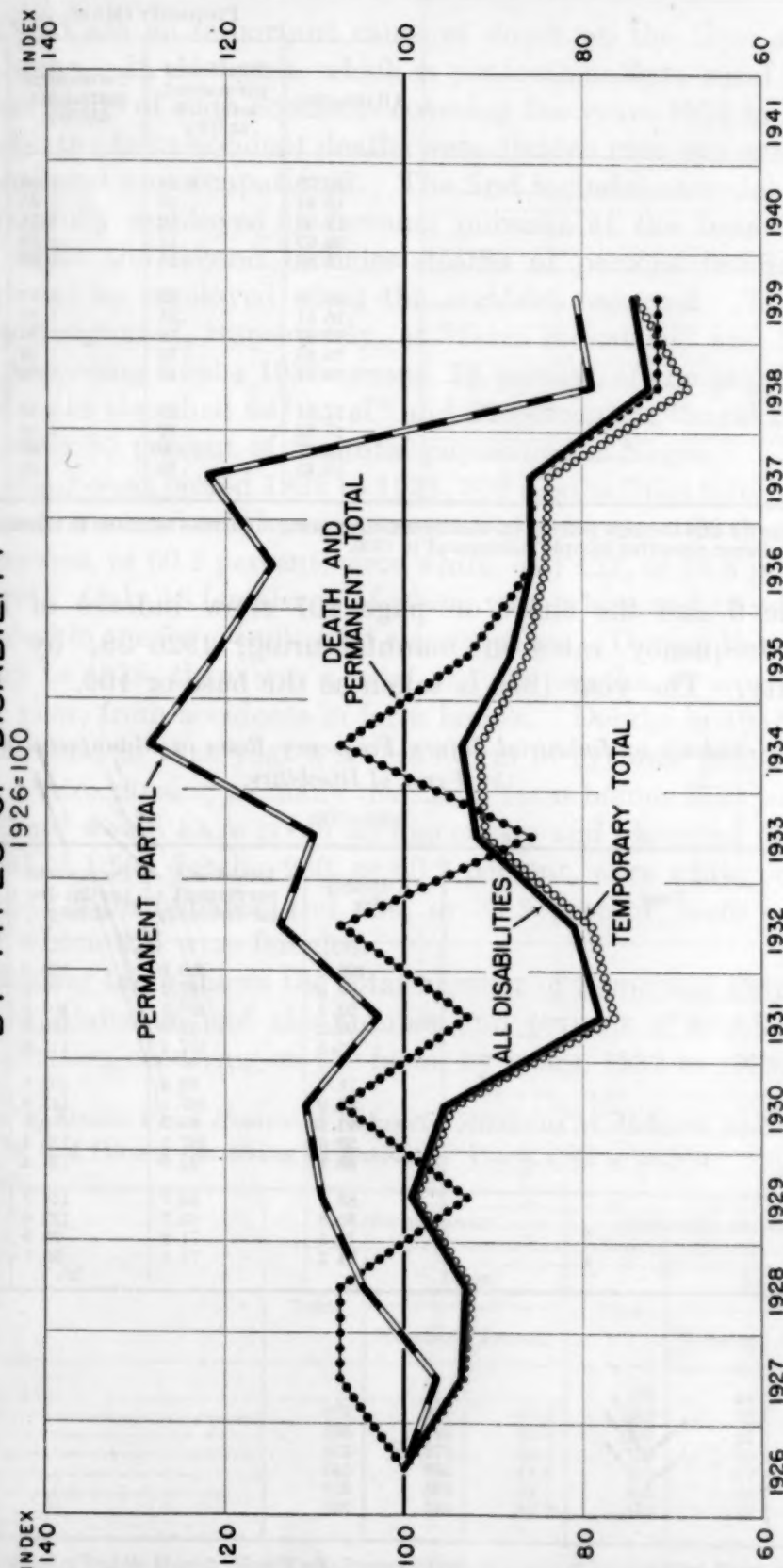
The downward trend of disabling injuries is undoubtedly the result of more widespread and more effective safety work in recent years in comparison with that of the late twenties and early thirties. It is well known that industrial accidents are costly both to workers and employers. It is also recognized by many employers that the total accident cost to them is about five times what they pay for workmen's compensation insurance. The gospel, that industrial accidents can be prevented, apparently is finding wider acceptance.

FREQUENCY RATE OF DISABLING INJURIES IN MANUFACTURING



UNITED STATES BUREAU OF LABOR STATISTICS

INDUSTRIAL INJURY FREQUENCY RATES IN MANUFACTURING BY TYPES OF DISABILITY



UNITED STATES BUREAU OF LABOR STATISTICS

TABLE 5.—Industrial Injury Frequency Rates in Manufacturing, 1926-39¹

Year	Frequency rate of—			
	All injuries	Death and permanent total disability	Permanent partial disability	Temporary total disability
1926.....	20.78	0.14	1.09	19.55
1927.....	19.44	.15	1.05	18.24
1928.....	19.37	.15	1.14	18.08
1929.....	20.62	.13	1.19	19.30
1930.....	19.85	.15	1.21	18.49
1931.....	16.21	.13	1.12	14.96
1932.....	16.81	.15	1.24	15.42
1933.....	19.07	.12	1.20	17.75
1934.....	19.45	.15	1.40	17.90
1935.....	18.31	.13	1.32	16.86
1936.....	17.81	.12	1.25	16.44
1937.....	17.82	.12	1.33	16.36
1938.....	15.07	.10	.86	13.32
1939.....	15.43	.10	.88	14.45

¹ The rates for 1926 through 1935 are those of 30 manufacturing industries adjusted to the experience of the very much larger reporting sample subsequent to 1936.

Table 6 and the chart on page 107 show indexes of industrial injury frequency rates in manufacturing, 1926-39, by types of disability. The year 1926 is taken as the base or 100.

TABLE 6.—Indexes of Industrial Injury Frequency Rates in Manufacturing, 1926-39, by Types of Disability

[1926=100]

Year	All disabilities	Death and permanent total disability	Permanent partial disability	Temporary total disability
1926.....	100.0	100.0	100.0	100.0
1927.....	93.6	107.1	96.3	93.3
1928.....	93.2	107.1	104.6	92.5
1929.....	99.2	92.9	109.2	98.7
1930.....	95.5	107.1	111.0	94.6
1931.....	78.0	92.9	102.8	76.5
1932.....	80.9	107.1	113.8	78.9
1933.....	91.8	85.7	110.1	90.8
1934.....	93.6	107.1	128.4	91.6
1935.....	88.1	92.9	121.1	86.2
1936.....	85.7	85.7	114.7	84.1
1937.....	85.8	85.7	122.0	83.7
1938.....	72.5	71.4	78.9	68.1
1939.....	74.3	71.4	80.7	73.9

FARM ACCIDENTS IN ALABAMA, 1932 TO 1938

ACCIDENTS are an important cause of death on the farm and in the farm home. In Alabama, which is predominantly a rural State, a study was made of such accidents covering the years 1932 to 1938.¹ In the study, the farm-accident deaths were divided into two groups—occupational and nonoccupational. The first includes only deaths of persons gainfully employed in farming pursuits at the time of the accident, while the second includes deaths of persons residing on farms, but not so employed when the accident occurred. The two groups are designated, respectively, as “farm industrial” and “farm home.” According to the 1930 census, 72 percent of the population of Alabama was classified as “rural” and 50 percent as “rural farm.” Approximately 37 percent of the total population is Negro.

During the 7-year period 1932 to 1938, 309 deaths from farm industrial accidents were recorded—an average of 44 per year. Of this number, 186 persons, or 60.2 percent, were white, and 123, or 39.8 percent, were colored. Only 18 females, 8 of whom were white and 10 colored, were included in the farm-industrial classification. During the 6-year period 1933 to 1938, there was a total of 1,594 deaths, or an average of 266 per year, from accidents in farm homes. Deaths in 1932 were omitted, because in that year a severe storm of cyclonic proportions swept the State, causing so many deaths in farm homes that to have included them would have given an inaccurate and distorted picture. Of the total of 1,594 deaths, 960, or 60.2 percent, were white persons of whom 512 were females, and 634, or 39.8 percent, were colored persons of whom 325 were females.

The following table shows the total number of home and industrial accidents in Alabama, and the number and percent of accidents of each classification occurring on the farm, by years, 1932 to 1938.

Total Number of Deaths From Home and Industrial Accidents in Alabama, and Number and Percent Occurring on Farms, by Years, 1932 to 1938

Year	Home accidents			Industrial accidents		
	Total	Farm		Total	Farm	
		Number	Percent		Number	Percent
1932				168	44	26.2
1933	474	225	47.5	182	53	29.1
1934	595	292	49.1	209	47	22.5
1935	613	276	45.0	192	40	20.8
1936	645	284	44.0	236	47	19.9
1937	669	268	40.1	302	45	14.9
1938	652	249	38.2	196	33	16.8

¹ American Journal of Public Health, New York, January 1940: A Study of Deaths from Farm Accidents in Alabama, by J. N. Baker, M. D.

The largest proportion of deaths from industrial accidents on the farms—46 percent—occurred during the four summer months, June to September, while the largest number of fatal accidents in the home—43 percent—occurred during the four winter months, December to March.

About one-third of the industrial accidents on farms resulted in instant death; in one-half of the cases death occurred within 24 hours and in 78 percent it occurred within 1 week. Of the home deaths more than one-fourth occurred instantly, and more than one-half resulted in death within 1 day or less.

The occupations in which the largest number of deaths occurred, in the order of their importance, were cutting and sawing lumber, caring for animals, plowing, driving vehicles, clearing land, and riding animals—accidents in these occupations caused 176 deaths; while a total of 53 deaths occurred in building and repairing fences, hoeing, operating machinery, loading and unloading vehicles, repairing tools, and picking cotton. The 80 remaining deaths were due to a miscellaneous group of causes, or the cause was unknown. Cutting and sawing lumber was responsible for about 1 out of every 5 industrial deaths on farms; and 3 out of 4 deaths from this activity were caused by falling trees or limbs. The next most important cause of death—caring for animals—occasioned 37 deaths, in 10 cases the victim being kicked to death by mules. One-half of those caring for animals were over 60 years of age, indicating, the report states, that unsafe acts may have been responsible for many such deaths. There were 31 deaths of persons engaged in plowing, of which 10 were caused by lightning, 8 were attributed to sunstroke, and 6 involved animals. Twenty-two persons were killed while driving vehicles, three-fourths of them falling from wagons or trucks. Clearing land resulted in 17 deaths, more than three-fourths of which were caused by burns; and 17 persons were killed while riding animals. About half of the deaths from riding animals occurred among young persons 10 to 14 years of age.

Nearly one-half of the deaths from farm-home accidents were of children under the age of 15, almost one-third of these being under the age of 5 years. Burns, including those from burning buildings, were the cause of 536 deaths, or more than one-third of the total farm-home deaths. Falls caused 409 deaths, or 26.5 percent of the total; followed by 154 deaths, 9.4 percent, from firearms; 138 suffocations, 8.7 percent; and 122 deaths from poisoning, 7.7 percent. The remaining 235 deaths were due to a variety of causes, or the cause was unknown.

During the 6-year period 1933 to 1938, an average of 84 out of each 100 accidental deaths on farms were classified as home deaths, and 16 as industrial deaths. The maximum number of farm-home deaths (292) occurred in 1934, and the fewest (225), in 1933, while in the same

period, farm industrial deaths reached their highest point (53) in 1933, and their lowest (33) in 1938.

The importance of farm accidents is shown by the fact that for the 6-year period, 44 percent of all deaths from home accidents in Alabama, and 20 percent of all deaths from industrial accidents, occurred on farms. Approximately 310 deaths can be attributed to farm accidents annually, which is a much larger number than is caused by any of the acute contagions taken singly. As accidents, like communicable diseases, are in large measure preventable, the writer states that they should be considered and treated as such in all public health programs, and that the ability to determine the specific cause or groups of causes will determine the success or failure of any health program in this regard.



FATAL INDUSTRIAL ACCIDENTS IN CANADA, 1939

THE total number of fatal industrial accidents in Canada reported for the year 1939 was 1,031, of which 16.88 percent occurred in transportation and the public-utility service. The next highest percentage of fatalities—15.70 percent—was recorded for agriculture. These figures and statistics for other industrial groups are given in the table below, based on a more detailed tabulation in the Canadian Labor Gazette for March 1940.

Fatal Industrial Accidents in Canada, 1939

Industry	Fatalities		Gainfully employed, latest census	
	Number	Percent of total	Year of census	Number
All industries.....	1,031	100.0		
Agriculture.....	162	15.70	1931	1,128,188
Logging.....	141	13.68	1931	49,960
Fishing and trapping.....	28	2.70	1938	71,510
Mining, nonferrous smelting and quarrying.....	161	15.62	1938	107,275
Manufacturing.....	105	10.19	1937	660,451
Construction.....	127	12.32	1931	256,282
Electric light and power.....	25	2.43	1938	17,929
Transportation and public utilities.....	174	16.88		(1)
Trade.....	38	3.69	1931	387,315
Finance.....			1931	92,317
Service.....	70	6.79	1931	767,705
Unclassified.....				169,263

¹ No data for group as a whole.

Workmen's Compensation

INDUSTRIAL-ACCIDENT COMPENSATION IN NETHERLAND INDIA

INDUSTRIAL-accident compensation for workers in Netherland India was provided by a Government ordinance in 1939.¹ The ordinance covers all establishments using one or more power tools; handling poisonous gases or chemicals, explosives, etc.; or engaged in generating and distributing electricity, loading and unloading, mining, transportation (except at sea), construction, forestry, radio broadcasting, and mechanized farming. Other enterprises considered to be dangerous for workers employed therein may be included by government regulation. However, enterprises consisting of various divisions are liable for compensation to workers only in the divisions covered by the law. Volunteer workers, apprentices, and contract labor in enterprises covered by the law are also included. Government employees, home workers (with certain exceptions), and members of the employer's family are excluded from coverage.

Compensation is paid by the employer to any worker who has suffered an accident in his establishment. The compensation consists of transportation of the afflicted worker either to his home or to a proper hospital; provision of medical and nursing care for the injured worker for at least 1 year; in case of death, funeral expenses amounting to 26 times the daily wage of the worker, within certain limits; and cash payments as prescribed by the ordinance.

When death results from an accident the employer must make lump-sum cash payments to the survivors as follows: To the widow or widower, 300 times the daily wage; for each child, 100 times the daily wage, but the total payment on behalf of children shall not exceed 200 times the daily wage.

In case of total permanent disability, the worker shall be paid half his daily wage for each day except Sundays during the remainder of his life.

In case of temporary disability, the worker shall be paid 80 percent of the daily wage for each day of disability except Sundays. If the disability lasts longer than 1 month, compensation is to be reduced to one-half the daily wage for the duration of the disability.

¹ Data are from report of Erle R. Dickover, American consul general, Batavia, Java.

In case of permanent partial disability, compensation is to be paid in accordance with the following schedule. Provision is also made for determining compensation for permanent bodily disfigurement not included in the schedule.

Partial disability resulting from loss of—	Percent of daily wage payable
Right arm from shoulder joint.....	37.5
Left arm from shoulder joint.....	35.0
Right arm from or above elbow.....	32.5
Left arm from or above elbow.....	30.0
Right hand from or above wrist.....	30.0
Left hand from or above wrist.....	27.5
Both legs.....	47.5
One leg.....	27.5
Both feet.....	45.0
One foot.....	25.0
Both eyes.....	50.0
One eye.....	15.0
Hearing in both ears.....	30.0
Hearing in one ear.....	5.0
Right thumb.....	10.0
Left thumb.....	9.0
Index finger of right hand.....	7.5
Index finger of left hand.....	6.0
One of other fingers of right hand.....	4.0
One of other fingers of left hand.....	3.0
One of the big toes.....	2.5
Any other toe.....	1.5

The ordinance defines "wages" of workers as payment for their labor in cash or in kind, or in both. For compensation purposes wages in kind are converted into money in accordance with the prices prevailing in a given locality. Wages paid by the week, month, or year, or at piece rates, are to be calculated on a day basis. In determining compensation, any amount of the daily wage exceeding the maximum of 20 guilders is not to be considered.

The worker's right to sue for compensation lapses 1 year from the date of the accident, and the survivors' right to sue lapses 1 year from the date of the worker's death.

All accidents must be reported by registered letter within 2 full days of their occurrence, unless the employers are exempted by the head of the Bureau of Labor from reporting accidents.

Labor Laws and Court Decisions

COURT DECISIONS OF INTEREST TO LABOR

Steel Wage Determination Sustained

THE United States Supreme Court has held that the wage requirements imposed by the Secretary of Labor on companies doing business with the Government under the provisions of the Public Contracts Law, commonly referred to as the Walsh-Healey Act,¹ are not subject to judicial review. In brief, the law requires that contractors on Government work involving \$10,000 or over must pay "not less than the minimum wages as determined by the Secretary of Labor to be the prevailing minimum wages for persons employed on similar work or in the particular or similar industries or groups of industries currently operating in the locality in which the materials, supplies, articles, or equipment are to be manufactured or furnished."

In January 1939, the Department of Labor established six prevailing wage areas, or localities, effective as of March 1, 1939, for the iron and steel industry. One of the "localities" in the northeastern section included approximately 14 States and the District of Columbia. Several independent steel companies who were prospective bidders on Government contracts filed an action attacking the order of the Secretary of Labor and complained against the extent of the "locality." They claimed that the interpretation of the word "locality" embraced such a wide area that it was arbitrary and capricious, and, therefore, would prevent them from competing with larger steel companies. It was their contention that a "locality" meant a local center of manufacture or a small geographical area surrounding the place of performance of a Government contract. The Federal Government, on the other hand, asserted that the discretion of the Secretary of Labor in the definition of a "locality" was unlimited. The steel companies failed to obtain an injunction in the trial court, but the Court of Appeals for the District of Columbia finally granted relief.² The action of the Court of Appeals, however, was reversed by the Supreme Court in an opinion written by Mr. Justice Black.

In his ruling, Mr. Justice Black sustained the contention of the Government that the suit "constitutes an unwarranted interference

¹ See text of law in *Monthly Labor Review*, August 1936 (p. 368).

² See *Monthly Labor Review*, November 1939 (p. 1137).

with deliberate legislative policy and with executive administration vital to the achievement of governmental ends, at the insistence of parties whose rights the Government has not invaded and who have no standing in court to attack the Secretary's determination." In this connection it was pointed out that, in order for the steel companies to have a standing in court, they would have to show an injury or threat to a particular right of their own as distinct from the public interest in the administration of the Walsh-Healey Act. The law, Mr. Justice Black said, "was not enacted for the protection of sellers and confers no enforceable rights on prospective bidders."

The Court further declared that the Government, like private individuals and businesses, enjoys the unrestricted power to produce its own supplies, to determine those with whom it will deal, and to fix the terms and conditions upon which it will make needed purchases. According to the Court's opinion, the Government, acting through its agents, may for the purpose of keeping its own house in order, lay down guideposts by which its agents are to proceed in the procurement of supplies. The Public Contracts Act, it was pointed out, was not intended to be a bestowal of litigable rights upon those desirous of selling to the Government, but was intended to impose obligations upon those favored with Government business. Its principal purpose was to "obviate the possibility that any part of our tremendous national expenditures would go to forces tending to depress wages and purchasing power and offending fair social standards of employment." (*Perkins v. Lukens Steel Co.*, 60 Sup. Ct. 869.)

Certain Employees of Bus Companies Held Subject to Wage and Hour Law

In a 5-to-4 decision the United States Supreme Court recently held that the Interstate Commerce Commission does not have jurisdiction over the hours of employment of nonoperating employees of truck and bus companies engaged in interstate commerce. Instead, according to the decision, such employees now come under the Fair Labor Standards Act of 1938, administered by the Wage and Hour Division of the United States Department of Labor.

The Federal Wage and Hour Law, adopted in 1938, exempted employees under the jurisdiction of the Interstate Commerce Commission from the maximum hour and overtime provisions of the act, while the Motor Carriers Act of 1935 vested in the Interstate Commerce Commission the power to establish reasonable requirements with respect to "qualifications and maximum hours of service" of common and contract carriers by motor vehicle. The Commission construed this to apply only to drivers and others whose work affected only the safety of truck and bus operation. In this con-

struction of the act the Wage and Hour Division heretofore agreed. However, the District Court of the United States for the District of Columbia held that the Interstate Commerce Commission's jurisdiction extended to all employees of such companies.

The Supreme Court agreed with the ruling of the Commission, holding that the meaning of "employees," as used in the Motor Carriers Act, "is limited to those employees whose activities affect the safety of operation," and declared that "the Commission has no jurisdiction to regulate the qualifications and hours of service of any others." As a result of this decision, only drivers of trucks and busses remain under the jurisdiction of the Interstate Commerce Commission. Other employees of these companies, such as clerks, stenographers, bookkeepers, accountants, and warehousemen, are subject to the Fair Labor Standards Act of 1938. Thus, more than 200,000 employees of such companies will be under the Fair Labor Standards Act and entitled therefore to at least time and one-half for any overtime work. (*United States v. American Trucking Associations*, 60 Sup. Ct. 1059.)

Law Regulating Use of Motor Vehicles Held Constitutional

A Pennsylvania law regulating the operation of motor vehicles that are used to carry other vehicles has been upheld by the United States Supreme Court. The State act was a safety measure that prohibited the operation on the highways of the State of any vehicle carrying any other vehicle over the head of the operator.

It was contended that the statute was invalid because it had been superseded by action of the Interstate Commerce Commission under the Motor Carriers Act of 1935. The Court ruled, however, that the provisions of the Federal act authorizing the Interstate Commerce Commission to investigate and report on the need for Federal regulation of the size and weight of motor vehicles leaves undisturbed the power of the States to regulate the size and weight of loaded motor vehicles. The Court further held that the act was "an exercise of the State's power to protect the safe and convenient use of its highways through the control of size and weight of motor vehicles passing over them," and did not violate the due process clause of the fourteenth amendment or infringe the commerce clause of the Federal Constitution. It was also pointed out that the provision of the act which empowers the Interstate Commerce Commission to promote safety of operation and prescribe qualifications and maximum hours of service of employees, as well as standards of equipment, does not authorize the Commission to regulate the sizes and weights of motor vehicles. (*Maurer v. Hamilton*, 60 Sup. Ct. 726.)

Processing Plant Held Subject to National Labor Relations Act

The United States Supreme Court has held that an operator of a dyeing plant was subject to the National Labor Relations Act. The jurisdiction of the National Labor Relations Board had been challenged on the ground that the business of the Bradford Dyeing Association involved no activities in or affecting interstate commerce within the meaning of the act. This company is engaged in the business of dyeing and finishing cotton, rayon, and acetate piece goods which are shipped to and from the plants of the employer by its customers, most of whom are in other States. These piece goods reached the plant as unfinished "gray goods." Customers of this company, known as "converters," ship the gray goods to the plant and retain ownership and direct shipment of the goods when processed. The company owns no goods or means of transportation, and the customers pay the cost of transportation to and from the plant. A New York office is maintained, however, where solicitors, who contact converters, make their headquarters. A majority of the converters are located in States other than Rhode Island and about 90 percent of all goods processed is shipped out of the State.

The opinion of the Supreme Court was delivered by Mr. Justice Black, who declared that there was abundant evidence to justify the exercise of jurisdiction by the Board. In holding that the National Labor Relations Board had jurisdiction in this case, Mr. Justice Black pointed out that "the act is applicable to a processor who constitutes even a relatively small percentage of his industry's capacity, where the materials processed are moved to and from the processor by their owners through the channels of interstate commerce." It had been contended that the company's customers might be able to secure the same services from other Rhode Island processors if a labor dispute should stop the interstate flow of materials to and from the company's plant. The Court held, however, that this was not important and that since the purpose of the act was to protect and foster interstate commerce, "the Board's jurisdiction can attach, as here, before actual industrial strife materializes to obstruct that commerce." Under the ruling of the Supreme Court, the company is required to bargain with the Textile Workers Organizing Committee and to withdraw recognition from a company-dominated organization. (*National Labor Relations Board v. Bradford Dyeing Association*, 60 Sup. Ct. 918.)

Total Compensation Held Not to Include Medical Aid

The Supreme Court of North Carolina has held that the payment of the costs of medical treatment and hospitalization does not constitute part of the total compensation payable under the Workmen's Compensation Act for permanent total disability. This ruling is very

important to the employees in this State, since employers are required to furnish hospitalization and medical treatment in addition to the maximum compensation allowed.

In this case, the employer had paid \$2,376 directly to the employee at the rate of \$18 per week, and \$3,667.74 for medical, hospital, nursing, drugs, and physicians' and surgeons' fees, which made a total of \$43.74 more than \$6,000. The employer contended that he was not required to make any further payment, on the ground that the maximum of \$6,000 specified in the law included payments for medical aid. The court, however, held that the total of \$6,000 did not include payments for medical aid, and that the employer must furnish medical services in addition to compensation. Construing the act as a whole, the court was of the opinion that "compensation" means the money allowance payable to an employee or his dependents, and "does not include money paid by the employer or carrier to hospitals, doctors, and nurses for hospitalization, etc." (*Morris v. Laughlin Chevrolet Co.*, 8 S. E. (2d) 484.)

Cost and Standards of Living

SAVINGS OF WAGE EARNERS AND CLERICAL WORKERS

Summary

IN THE aggregate, the current incomes of the families studied in the 42 cities covered in this survey in 1934-36 were a little greater than their current expenditures.¹ The average savings amounted to \$11 per family. Insurance premiums are treated as savings in this report and averaged \$82 per family. Three-fifths of the families included in the survey reported a surplus² or net saving which averaged almost \$150. Almost two-fifths of the families, however, had a deficit.² A very small proportion reported no net change in assets or liabilities, and their current incomes and current expenditures were approximately in balance.³

In considering these figures, it is important to bear in mind the occasional large expenditure which must be made by every family, and the general level of incomes among the families of wage earners and clerical workers. The average income of these families was \$1,524 and the median income, \$1,458. The purchase by a family at this income level of an electric refrigerator for \$150, for example, must inevitably be financed in part by some means outside of current income. It may be from past savings which have been set aside for this purpose, or from current borrowing. Using either method, the family will show a deficit in the particular year in which an extraordinary occasional purchase is made.

The important thing to observe, therefore, is not that a number of families spent more than their incomes in a given year, but the balance at a given income level between aggregate income and aggregate

¹ This is the eighth in a series of articles prepared by the Bureau's Cost of Living Division, presenting a summary of data collected in the Study of Money Disbursements of Employed Wage Earners and Clerical Workers in 1934-36 for 42 Cities Combined. A total of 14,469 white and Negro families are covered by this report. No families with incomes below \$500 or which had received any relief during the year were included in the investigation. See Bureau of Labor Statistics Bulletins Nos. 636, 637 (vols. I and II), and Nos. 639 to 641, and articles in the Monthly Labor Review for December 1939 and January, February, March, April, May, and June 1940. The final report will be published as Bulletin No. 638.

² For further definition of surplus or saving, and of deficit or dissaving, as used in this discussion, see pp. 120 and 127, or appendix A in the following bulletins: Nos. 636, 637, or 639 to 641.

³ For discussion of method of calculating net change in assets and liabilities and relation to balancing difference, see p. 123 and appendix A in the following bulletins: Nos. 636, 637, or 639 to 641.

expenditures. Under normal circumstances we might expect that exceptional outlays made in any 1 year by some of the families at this income level would balance accumulations made by other families in anticipation of later purchases from savings, or reductions of liabilities incurred for purchases of previous years.

In this connection, it is important to note the setting of the period in which these surveys were made. There had been a period of 3 or 4 years of intense anxiety during which there was no certainty as to what the future held in store. It would appear that a number of families in the wage-earner and clerical groups had managed, even during the worst days of the depression, to conserve small amounts of their past savings or of their current income. By 1934, and more particularly by 1935, anxiety with reference to the future was somewhat relieved. This was especially so among families covered by this investigation, since families without relatively steady employment and those who had been on relief at any time during the survey year were excluded from the study. These families, many of whom had refrained from large purchases for several years, were feeling the necessity of replacement or were sufficiently encouraged to undertake purchases of new items.

Surplus and Deficit by Income Level

Among families with incomes from \$500 to \$600 (the lowest income level included in the investigation), the average net change in assets and liabilities for all families was a deficit of \$80 (see table 1). This deficit became progressively smaller at successive income levels, and changed to an average surplus of \$19 for families in the \$1,500 to \$1,800 income class. The average surplus was greater at each higher income level, reaching a maximum of \$231 for families with incomes of \$3,000 and over. (See fig. 1.) The proportion of families having a surplus tended to be greater at higher income levels and the average amount of such surplus likewise increased. The proportion of families having a deficit declined at successive income levels, although, with one exception, the average size of the deficit among families "going into the red" was greater at the higher income levels. The large deficits incurred by 46 percent of the families at the lowest income level are explained by the great difficulty which large city families find in trying to stretch incomes of this size to meet urgent needs. It also suggests that not all of the families with incomes at that level had customarily had such limited incomes. Some families, finding their current income restricted, drew upon reserves or contracted debts rather than restricting further their current consumption. Large city families at that income level who had neither savings nor ability to borrow in general probably went on relief.

Fig. 1.

CHANGES IN ASSETS AND LIABILITIES OVER THE SCHEDULE YEAR AT SUCCESSIVE INCOME LEVELS 1934-1936

14,469 FAMILIES OF WAGE EARNERS AND CLERICAL WORKERS IN 42 CITIES

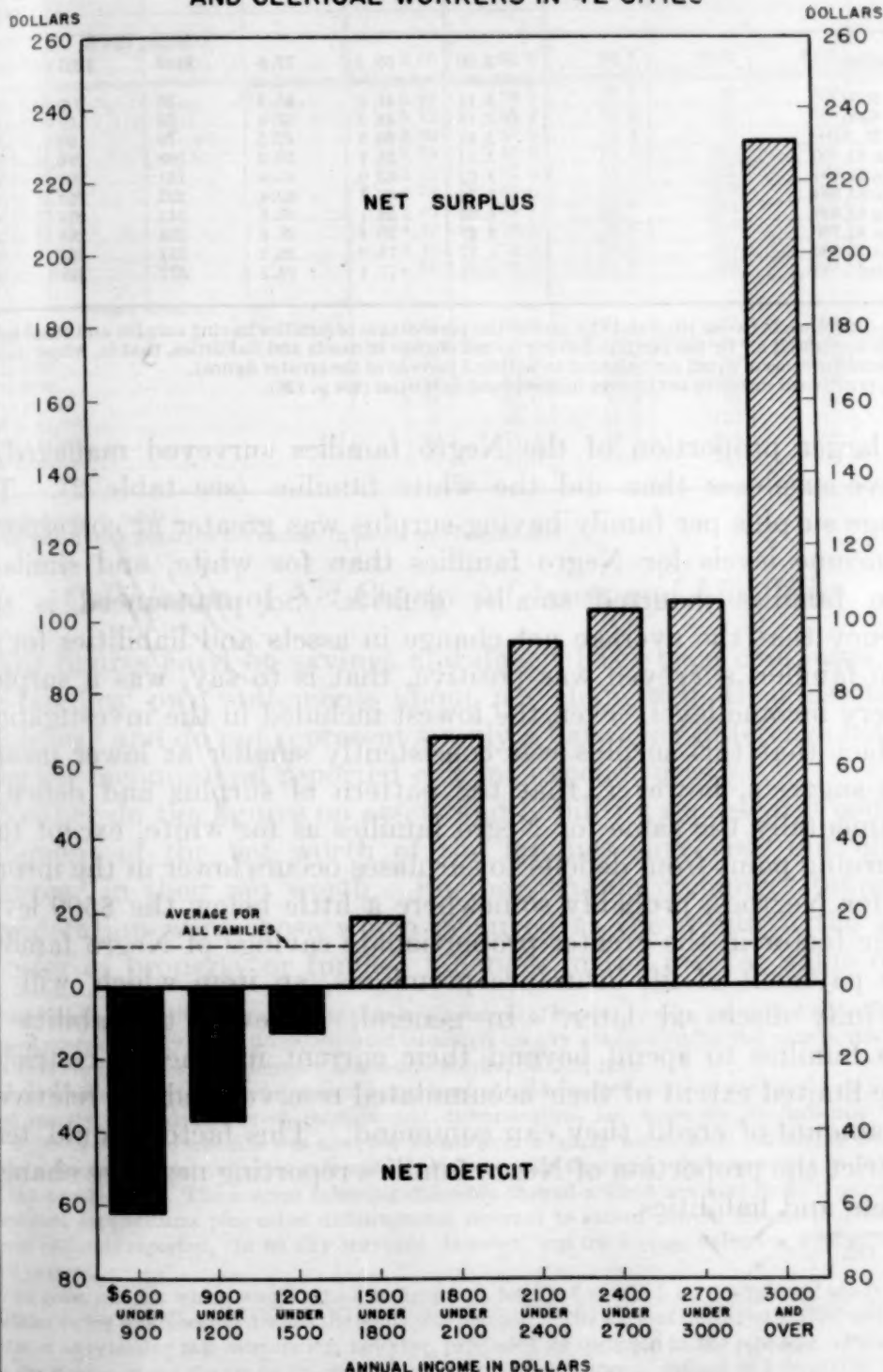


TABLE 1.—Average Surplus and Deficit of 14,469 Families of Wage Earners and Clerical Workers in 42 Cities, by Income Level

[Data cover 12 months within the period 1934-36]

Families with annual net income of—	Average number of persons per family	Percent of families having— ¹		Average amount per family having—		Average surplus or deficit for all families in survey ²
		Surplus	Deficit	Surplus	Deficit	
All families.....	3.60	59.2	37.8	\$149	\$203	+\$11
\$500 to \$600.....	3.11	41.0	46.4	36	202	-80
\$600 to \$900.....	3.18	44.5	53.4	56	159	-62
\$900 to \$1,200.....	3.41	52.9	42.5	79	186	-37
\$1,200 to \$1,500.....	3.54	58.1	39.3	108	194	-13
\$1,500 to \$1,800.....	3.62	63.0	35.0	151	218	+19
\$1,800 to \$2,100.....	3.76	63.1	32.1	223	225	+68
\$2,100 to \$2,400.....	4.03	68.1	30.8	243	233	+94
\$2,400 to \$2,700.....	4.27	70.4	28.6	254	268	+103
\$2,700 to \$3,000.....	4.37	73.9	26.1	331	325	+105
\$3,000 and over.....	4.81	77.4	19.1	377	319	+231

¹ The difference between 100.0 and the sum of the percentages of families having surplus and those having deficit is accounted for by the families having no net change in assets and liabilities, that is, whose incomes and expenditures were equal (or balanced to within 5 percent of the greater figure).

² I. e., positive or negative net change in assets and liabilities (see p. 126).

A larger proportion of the Negro families surveyed managed to achieve surpluses than did the white families (see table 2). The average surplus per family having surplus was greater at corresponding income levels for Negro families than for white, and similarly Negro families incurred smaller deficits. So pronounced is this tendency that the average net change in assets and liabilities for all Negro families surveyed was positive, that is to say, was a surplus, at every income level—even the lowest included in the investigation. The fact that this surplus was consistently smaller at lower income levels suggests, however, that the pattern of surplus and deficit is fundamentally the same for Negro families as for white, except that the turning point from deficits to surpluses occurs lower in the income scale for Negroes, probably somewhere a little below the \$500 level. A large factor in the greater proportionate savings of Negro families is the payment of life-insurance premiums, an item which will be more fully discussed later.⁴ In general, however, the ability of Negro families to spend beyond their current incomes is restricted by the limited extent of their accumulated reserves and the relatively small amount of credit they can command. This factor would tend to restrict the proportion of Negro families reporting negative changes in assets and liabilities.

⁴ See p. 132.

TABLE 2.—Average Surplus and Deficit of 12,903 White Families in 42 Cities and 1,566 Negro Families in 16 Cities, by Income Level

[Data cover 12 months within the period 1934-36]

Families, by color, with annual net income of—	Average number of persons per family	Percent of families having— ¹		Average amount per family having—		Average surplus or deficit for all families in survey ²
		Surplus	Deficit	Surplus	Deficit	
<i>White families</i>						
All families.....	3. 60	58. 9	38. 1	\$152	\$207	+ \$11
\$500 to \$600.....	2. 95	24. 2	57. 3	29	269	-147
\$600 to \$900.....	3. 12	38. 3	55. 9	57	175	-77
\$900 to \$1,200.....	3. 39	51. 9	43. 4	79	190	-42
\$1,200 to \$1,500.....	3. 53	57. 8	39. 5	108	195	-14
\$1,500 to \$1,800.....	3. 62	62. 8	35. 2	151	219	+18
\$1,800 to \$2,100.....	3. 76	63. 0	32. 1	223	226	+68
\$2,100 to \$2,400.....	4. 02	68. 1	30. 7	243	233	+94
\$2,400 to \$2,700.....	4. 27	70. 5	28. 6	254	269	+103
\$2,700 to \$3,000.....	4. 37	74. 0	26. 0	330	326	+106
\$3,000 and over.....	4. 81	77. 4	19. 0	378	320	+232
<i>Negro families</i>						
All families.....	3. 59	66. 0	31. 1	84	98	+25
\$500 to \$600.....	3. 31	62. 3	32. 5	40	55	+6
\$600 to \$900.....	3. 42	63. 4	32. 7	53	84	+6
\$900 to \$1,200.....	3. 64	66. 0	30. 9	80	97	+23
\$1,200 to \$1,500.....	3. 76	68. 0	31. 3	122	153	+36
\$1,500 to \$1,800.....	3. 90	77. 4	17. 1	143	108	+92
\$1,800 and over.....	4. 50	67. 3	31. 0	277	146	+141

¹See footnote 1, table 1.²I. e., positive or negative net change in assets and liabilities.

Calculation of Net Change in Assets and Liabilities

The figures cited on savings and deficit have been computed from the families' own statements about net changes in their assets and liabilities⁵ and do not represent simply a balancing difference between reported incomes and reported current expenditures.⁶

Neither do the figures on assets and liabilities represent a complete statement of the net worth of the families surveyed, but only of changes⁷ in their net worth. Further, the only changes taken into consideration were those which occurred as the result of the actual transfer of property or funds. Changes in the market value of real

⁵ Each family, in addition to furnishing data on all sources of current income and estimating outlay for all items of current family expenditure, reported separately on any changes during the year in the amounts of its assets or liabilities (see summary of schedule entries, pp. 124, 126).

⁶ Most families were not able to present a statement of total receipts and total disbursements which balanced exactly. For definition of receipts and disbursements, see Appendix A, Bulletins Nos. 636, 637, or 639 to 641. No schedule was accepted for use from a family which could not supply a statement of total receipts and total disbursements which balanced within 5 percent. See appendix A, Bulletins Nos. 636, 637, or 639 to 641. The average balancing difference showed a slight tendency to be positive, that is, for current expenditures plus other disbursements reported to exceed current income plus non-income sources of funds reported. In no city surveyed, however, was the average balancing difference as great as 2.0 percent.

⁷ The great interest which would attach to figures on total net worth, i. e., the value of assets held and liabilities owing was recognized when the study was planned. The scope of the investigation, and the difficulties of ascertaining this information, however, precluded its inclusion in the schedule. Furthermore, it is the figures on net change for the year which when added to current income (if a deficit) or to current expenditure (if a surplus) indicate the magnitude of the family's total receipts or total disbursements for the year. For definitions of the terms current income, current expenditure, total receipts, total disbursements, as used in this study, see appendix A in following bulletins: Nos. 636, 637, or 639 to 641.

estate or personal property remaining in the hands of the families studied are not included.

As an aid to more complete understanding of the figures discussed in this article, summaries of entries on the schedule ⁸ are presented as they would appear for two individual families, one of which had a surplus and the other a deficit for the year.

For illustration, it is assumed ⁹ that during the 12 months from March 1935 to February 1936 inclusive, family A paid off \$500 on the principal of the mortgage on the family home. This appears on the schedule as a decrease in debt in the form of mortgage on owned home. The family also paid semiannual premiums totaling \$39 on a life-insurance policy. Both the mortgage and the life-insurance items are entered on the right-hand side of the schedule page and their sum, \$539, represents the total annual net increase in assets and/or decrease in liabilities reported by family A. This amount represents the total of funds disbursed for items other than current family consumption.

Summary of Schedule Entries ¹ for Family A (Family Having a Surplus)

Changes in the Form and Amount of Family Assets and Liabilities in the Year Mar. 1, 1935 to Feb. 29, 1936
(Not including changes due to appreciation or depreciation of property which has not changed hands)

Funds made available for family use from sources other than family income in schedule year.	Amount	Disposition of money received during the schedule year not used for current family expenditures.	Amount
Decrease in assets:		Increase in assets:	
Reduction in savings account.....	\$200.00	Payments on life insurance (premiums paid semiannually).....	\$39.00
Increase in liabilities:		Decrease in liabilities:	
Increase in amounts due firms selling on the installment plan—goods other than automobile.....	45.00	Decrease in principal of mortgage on owned home.....	500.00
Increase in miscellaneous debts (doctor for tonsillectomy).....	25.00		
Total.....	270.00	Total.....	539.00
		Net change.....	+269.00

¹ These entries would appear on page 18 of the schedule. For schedule facsimile, see appendix F in the following bulletins: Nos. 636, 637, or 639 to 641.

It is further assumed that during the 12 months included within the survey year for family A, the family cleared up the balance of \$65 which it still owed on March 1, 1935 (the beginning of the survey year) for a radio purchased for Christmas 1934 (prior to the survey year). Had there been no other installment sales transaction by family A, that item would have been entered on the right-hand side of the schedule page as a decrease in debt to firms selling goods other than automobiles on the installment plan. However, in September 1935 (during the survey year), family A purchased a \$200 electric

⁸ For facsimile of the schedule, see appendix F in the following bulletins: Nos. 636, 637, or 639 to 641.

⁹ The data shown for families A and B are hypothetical and not data actually reported by individual families. They conform closely, however, to the kinds of situations actually reported by various families and illustrate the method of treatment.

refrigerator¹⁰ for which it paid \$50 down and a balance of \$8 a month. There was still owing on the refrigerator at the end of February 1936 a balance of \$110. This increase in installment debt of \$110, balanced against the \$65 decrease represented by payments on the radio, left a net increase for the year, in debt owing to firms selling on the installment plan, of \$45. This item of \$45 is the only entry which appears for these two installment-account transactions.¹¹ It shows on the left side of the page as a net increase in debt to firms selling goods other than automobiles on the installment plan.

A withdrawal by family A of \$200 more than deposited during the year in the savings account also appears on the left-hand side of the page as a net reduction in cash in savings account. A bill of \$25 owing the doctor for a tonsillectomy performed during the survey year is listed as an increase in "other debts." The total for the entries on the left-hand side of the page is \$270 and may be designated the net decrease in assets and increase in liabilities for family A. This amount represents funds from sources other than current family income made available for family spending during the year.

The totals on the right- and the left-hand sides of the page may now be balanced against each other to find out whether family A ends the year with a deficit or a surplus. Thus, \$270 subtracted from \$539 leaves a balance of \$269 on the right-hand side of the balancesheet, which is a positive net change in assets and liabilities, hence a surplus or net saving, or increase in net worth, for family A.

Family B, through a somewhat different set of financial transactions, came out with a net balance on the left-hand side of the sheet, that is, with a deficit or net dissaving, a decrease in net worth. Family B bought a \$400 automobile¹² in November 1935 for which it paid \$90 down and three monthly payments totaling \$90, leaving a balance owing at the end of February 1936 of \$220. That amount appears on the left-hand side of the page as net increase in debt to firms selling automobiles on the installment plan. Family B also had a net reduction of \$60 in its savings account and borrowed \$120 from a small-loan company to help pay for the installation of an automatic hot-water heater. The entries on the left-hand side of the page thus total \$400 for net decreases in assets and increases in liabilities for family B. This \$400 constitutes funds from sources other than current income made available for family spending during the year.

¹⁰ The entire sum of \$200 for the electric refrigerator would also be entered on page 14 of the schedule as an expenditure for that item. See "Expenditures of Wage Earners and Clerical Workers for House Furnishings and Operation," Monthly Labor Review for June 1940.

¹¹ The field agent was instructed in such cases to write an explanatory note on the blank page 19 of the schedule which could be checked by editors and tabulators.

¹² The entire amount of \$400 would be entered on page 16 of the schedule as expenditure for automobile purchase. See "Transportation and Recreation Expenditures of Wage Earners and Clerical Workers" in Monthly Labor Review for March 1940.

Summary of Schedule Entries¹ for Family B (Family Having a Deficit)

Changes in the Form and Amount of Family Assets and Liabilities in the Year Mar. 1, 1935 to Feb. 29, 1936
(Not including changes due to appreciation or depreciation of property which has not changed hands)

Funds made available for family use from sources other than family income in schedule year	Amount	Disposition of money received during the schedule year not used for current family expenditures	Amount
Decrease in assets: Reduction in savings account.....	\$60.00	Increase in assets: Investment in improvements on own home (installation of automatic hot-water heater)	\$125.00
		Payments on life insurance (premiums paid quarterly).....	26.00
Increase in liabilities: Increase in amounts due small loan companies.....	120.00	Decrease in liabilities: Decrease in amounts due firms selling on the installment plan—goods other than automobile (washing machine).....	55.00
Increase in amounts due firms selling on the installment plan—automobiles.....	220.00		
Total.....	400.00	Total.....	206.00
Net change.....	-194.00		

¹ These entries would appear on page 18 of the schedule. For schedule facsimile, see appendix F in the following bulletins: Nos. 636, 637, or 639 to 641.

The other side of the balance sheet for family B shows the \$125 automatic hot-water heater installation as an investment in the form of a permanent improvement to the owned home. In addition a balance of \$55¹³ owing on an electric washing machine purchased on the installment plan in January 1935 (prior to the survey year) was paid off during the survey year. This item appears on the right side of the schedule page as a decrease in debt to firms selling goods other than automobiles on the installment plan. Payment of \$26 in life insurance premiums is also entered on the right side of the page. The entries on the right come to a total of \$206 for net increases in assets and decreases in liabilities for family B. This total represents funds disbursed during the year for items other than current family consumption. This total subtracted from the \$400 on the left side, leaves family B with a negative net change in assets and liabilities of \$194, that is to say, with a deficit or net dissaving, a decrease in net worth of that amount.

It is the data for surpluses and deficits, calculated as just outlined, which appear in the first four columns of tables 1 and 2. To average the net change in assets and liabilities for families A and B, one adds the +\$269 and the -\$194 with a resulting +\$75 for the two families or an average net change of +\$37.50 per family. The net change, being positive, is surplus. Such a figure is comparable to those shown in the last column of tables 1 and 2.

¹³ No expenditure for this washing machine is entered on schedule page 14 because the purchase was not made during the survey year. See "Expenditures of Wage Earners and Clerical Workers for Housefurnishings and Operation," Monthly Labor Review for June 1940.

Surplus and Deficit, by Consumption Level

When families are classified not according to their incomes, but according to their consumption level¹⁴ there is a striking reversal in the pattern of surplus and deficit from that found for families classified by income level. Families at the lowest consumption levels had the largest surpluses and those at the highest consumption levels the largest deficits. (See fig. 2.)

TABLE 3.—*Average Surplus and Deficit of 14,469 Families of Wage Earners and Clerical Workers in 42 Cities, at Selected Consumption Levels*¹

[Data cover 12 months within the period 1934-36]

Families with total annual unit expenditure of—	Average annual income per family	Average number of persons per family	Percent of families having— ²		Average amount per family having—		Average surplus or deficit for all families in survey ³
			Surplus	Deficit	Surplus	Deficit	
All families.....	\$1,524	3.00	59.2	37.8	\$149	\$203	+\$11
Under \$200.....	967	6.49	62.1	32.2	93	85	+30
\$200 to \$300.....	1,187	5.19	61.9	34.6	113	124	+27
\$300 to \$400.....	1,334	4.16	62.6	33.8	128	151	+29
\$400 to \$500.....	1,486	3.54	63.2	34.3	144	172	+32
\$500 to \$600.....	1,596	3.13	59.2	38.7	163	195	+21
\$600 to \$700.....	1,688	2.79	58.3	39.4	174	220	+15
\$700 to \$800.....	1,822	2.55	54.6	42.2	188	261	-8
\$800 to \$900.....	1,884	2.38	52.7	44.3	199	297	-26
\$900 to \$1,000.....	1,981	2.28	48.2	48.6	199	330	-65
\$1,000 to \$1,100.....	2,097	2.26	35.6	64.1	221	399	-177
\$1,100 to \$1,200.....	2,262	2.21	36.9	59.2	203	403	-164
\$1,200 and over.....	2,396	2.00	23.6	74.2	238	475	-206

¹ See footnote 5, p. 123.

² The difference between 100.0 and the sum of the percentages of families having surplus and those having deficit is accounted for by the families having no net change in assets and liabilities, that is, whose incomes and expenditures were equal (or balanced to within 5 percent of the greater figure).

³ I. e., net change in assets and liabilities.

This result is to be expected from a classification by current expenditure. A family may incur a deficit in attaining a relatively high level of current expenditure. Likewise, a family saves by refraining from spending for current goods and services up to the limit of its income. In the classification by consumption level, therefore, families with deficits move up the scale to a higher level of spending than current income alone would allow, and families with surpluses for the year move down the scale. This serves to emphasize the fact that the consumption level of a given family in a given year is determined not

¹⁴ Classification by consumption level or economic level is the term used to denote total expenditure per family member, that is, "total annual unit expenditure." In counting the number of family members, a moderately active adult male is counted as one unit. Each other member is counted in proportion, with due regard to differences in customary consumption by age, sex and activity. For fuller explanation see "Income, Family Size, and Economic Level of the Family," Monthly Labor Review, January 1940, or appendix G in the following bulletins: Nos. 636, 637, or 639 to 641.

only by its current income, but also by its past savings and its ability to borrow. Families at the higher consumption levels not only had on the average larger incomes than those at the lower levels, larger accumulations of past savings, and correspondingly greater ability to borrow, but were also of smaller size and therefore had less fear of depleting reserves or of taking on the responsibility of borrowing. Consequently, it is not surprising to find that in a period when business recovery was getting under way, the groups with the highest level of current spending were those having the largest average deficits.

TABLE 4.—Average Surplus and Deficit of 12,903 White Families in 42 Cities and 1,566 Negro Families in 16 Cities, at Selected Consumption Levels ¹

[Data cover 12 months within the period 1934-36]

Families, by color, with total annual unit expenditure of—	Average annual income per family	Average number of ex- penditure units per family	Average annual income per ex- penditure unit	Percent of families having ² —		Average amount per family having—		Average surplus or deficit for all families in survey ³
				Sur- plus	Deficit	Sur- plus	Deficit	
<i>White families</i>								
All families.....	\$1, 546	3. 32	\$466	58. 9	38. 1	\$152	—\$297	+\$11
Under \$200.....	1, 021	5. 96	171	61. 6	32. 5	100	95	+31
\$200 to \$300.....	1, 219	4. 79	254	61. 4	35. 0	117	129	+27
\$300 to \$400.....	1, 352	3. 84	352	62. 1	34. 2	131	154	+29
\$400 to \$500.....	1, 502	3. 30	455	62. 9	34. 6	146	173	+22
\$500 to \$600.....	1, 606	2. 94	546	59. 2	38. 7	165	197	+21
\$600 to \$700.....	1, 695	2. 62	647	58. 4	39. 2	175	222	+16
\$700 to \$800.....	1, 821	2. 44	746	54. 7	42. 1	188	262	—8
\$800 to \$900.....	1, 888	2. 27	832	52. 6	44. 3	200	298	—27
\$900 to \$1,000.....	1, 983	2. 20	901	48. 2	48. 6	199	330	—65
\$1,000 to \$1,100.....	2, 101	2. 23	942	35. 7	64. 1	221	399	—177
\$1,100 to \$1,200.....	2, 255	2. 17	1, 039	37. 6	59. 0	203	403	—164
\$1,200 and over.....	2, 396	1. 94	1, 235	23. 2	75. 0	238	475	—298
<i>Negro families</i>								
All families.....	1, 008	3. 28	307	66. 0	31. 1	84	98	+25
Under \$200.....	811	5. 36	151	63. 6	31. 5	72	54	+29
\$200 to \$300.....	886	3. 08	288	67. 2	30. 1	74	69	+25
\$300 to \$400.....	983	2. 79	352	71. 5	26. 4	74	82	+36
\$400 to \$500.....	1, 027	2. 37	433	71. 4	25. 8	87	109	+36
\$500 to \$600.....	1, 209	2. 26	535	57. 2	37. 8	107	131	+12
\$600 to \$700.....	1, 327	2. 13	623	52. 4	47. 6	109	145	—13
\$700 and over.....	1, 753	2. 20	797	53. 0	47. 0	185	195	+7

¹ See footnote 5, p. 123.

² See footnote 2, table 3.

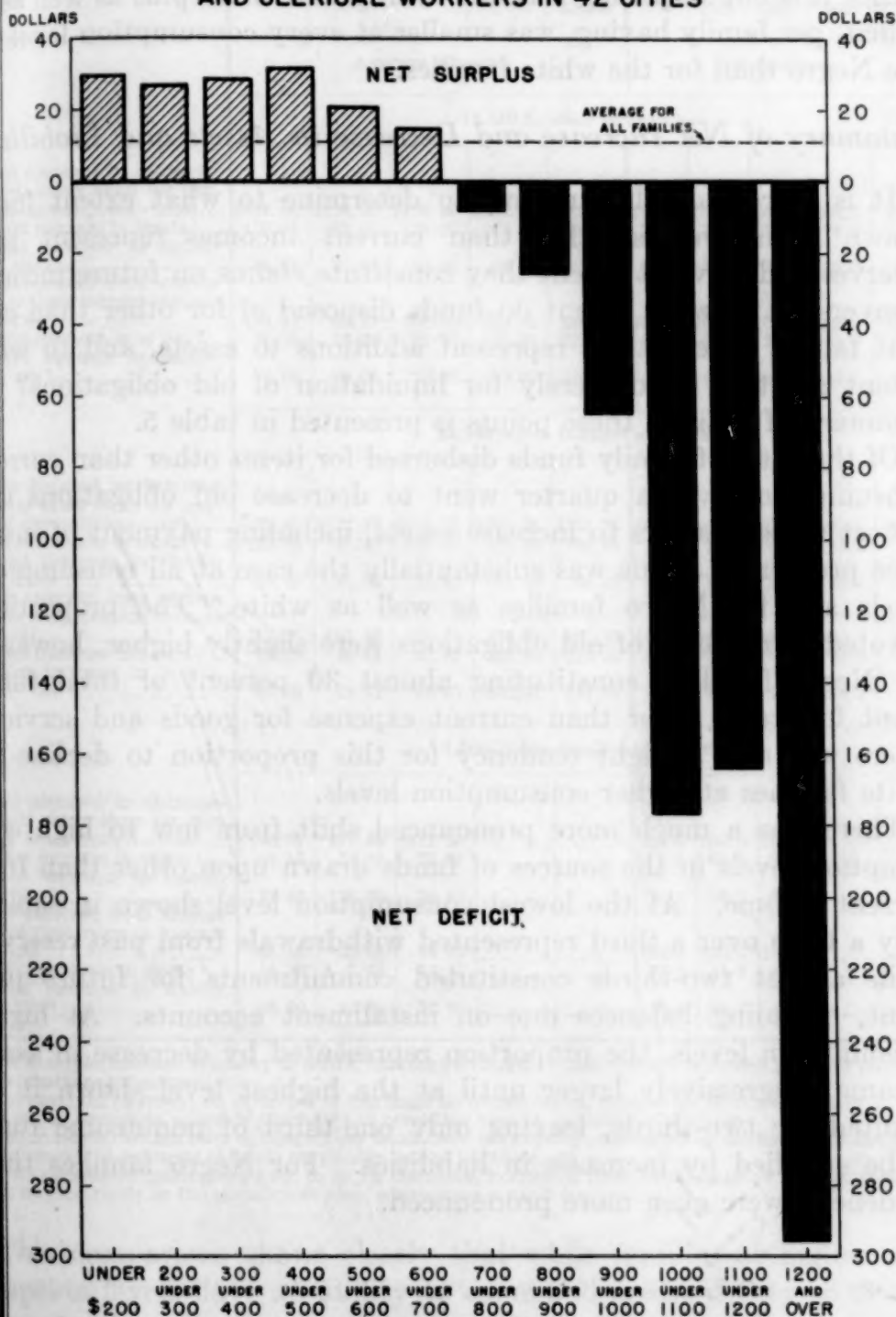
³ I. e., net change in assets and liabilities.

A larger proportion of Negro than of white families at the lower consumption levels had surpluses and a smaller proportion had deficits (see table 4). This confirms the general difference in incidence of surplus and deficit in the two color groups, noted when families were classified by income level. At the higher consumption levels, however, there was a departure from this relationship. At unit-expenditure levels of \$500 to \$600 and higher, relatively fewer Negro than white families had surpluses and at the unit-expenditure

Fig. 2

CHANGES IN ASSETS AND LIABILITIES OVER THE SCHEDULE YEAR AT SUCCESSIVE CONSUMPTION LEVELS 1934-1936

14,469 FAMILIES OF WAGE EARNERS
AND CLERICAL WORKERS IN 42 CITIES



level of \$600 to \$700 relatively more had deficits. Incomes of Negro families at these two consumption levels averaged \$1,209 and \$1,327, as compared with an average of \$956 for the three next lower levels. Negro families with such resources are obviously in a better position to secure credit than families at the lower levels. However, their income per unit even at those levels was below that of white families. Hence it is not surprising that the average size of surplus as well as of deficit, per family having, was smaller at every consumption level for the Negro than for the white families.

Summary of Net Increase and Decrease in Assets and Liabilities

It is of considerable interest to determine to what extent funds drawn from sources other than current incomes represent past reserves and to what extent they constitute claims on future income. Conversely, to what extent do funds disposed of for other than current family expenditures represent additions to assets, and to what extent are they used merely for liquidation of old obligations? A summary of data on these points is presented in table 5.

Of the total of family funds disbursed for items other than current consumption, over a quarter went to decrease old obligations and almost three-quarters to increase assets, including payment of insurance premiums. This was substantially the case at all consumption levels and for Negro families as well as white. The proportions devoted to decrease of old obligations were slightly higher, however, for Negro families, constituting almost 30 percent of total funds spent for items other than current expense for goods and services. There was also a slight tendency for this proportion to decline for white families at higher consumption levels.

There was a much more pronounced shift from low to high consumption levels in the sources of funds drawn upon other than from current income. At the lowest consumption level shown in table 5 only a little over a third represented withdrawals from past reserves, while almost two-thirds constituted commitments for future payment, including balances due on installment accounts. At higher consumption levels, the proportion represented by decrease in assets became progressively larger until at the highest level shown it accounted for two-thirds, leaving only one-third of nonincome funds to be supplied by increases in liabilities. For Negro families these tendencies were even more pronounced.

TABLE 5.—*Increases and Decreases in Assets and Liabilities of Families of Wage Earners and Clerical Workers, by Consumption Level*

[Data cover 12 months within the period 1934-36]

Item	All families	Families with total annual unit expenditure of—				All families	Families with total annual unit expenditure of—				
		\$200 to \$300	\$500 to \$600	\$800 to \$900	\$1,100 to \$1,200		\$200 to \$300	\$500 to \$600	\$800 to \$900	\$1,100 to \$1,200	
		Average amount					Percentage				
		14,469 families in 42 cities									
Funds disposed in disbursements other than for current consumption—total	\$164.48	\$123.26	\$178.98	\$202.62	\$262.16	100.0	100.0	100.0	100.0	100.0	
Net increase in assets ¹	119.85	87.81	128.02	149.85	194.43	72.9	71.2	71.5	74.0	74.2	
Net decrease in liabilities ²	44.63	35.45	50.96	52.77	67.73	27.1	28.8	28.5	26.0	25.8	
Funds received from sources other than current income—total	153.12	96.74	158.12	230.36	424.27	100.0	100.0	100.0	100.0	100.0	
Net decrease in assets ³	77.26	36.08	82.77	128.31	273.71	50.5	37.3	52.3	55.7	64.5	
Net increase in liabilities ⁴	75.86	60.66	75.35	102.05	150.56	49.5	62.7	47.7	44.3	35.5	
		12,903 white families in 42 cities									
Funds disposed in disbursements other than for current consumption—total	\$167.80	\$127.73	\$180.71	\$203.01	\$261.72	100.0	100.0	100.0	100.0	100.0	
Net increase in assets ¹	122.35	91.10	129.36	150.35	194.96	72.9	71.3	71.6	74.1	74.5	
Net decrease in liabilities ²	45.45	36.63	51.35	52.66	66.76	27.1	28.7	28.4	25.9	25.5	
Funds received from sources other than current income—total	157.06	101.10	159.61	230.91	426.39	100.0	100.0	100.0	100.0	100.0	
Net decrease in assets ³	79.97	38.88	83.81	128.90	275.08	50.9	38.5	52.5	55.8	64.5	
Net increase in liabilities ⁴	77.09	62.22	75.80	102.01	151.31	49.1	61.5	47.5	44.2	35.5	
		1,566 Negro families in 16 cities									
Funds disposed in disbursements other than for current consumption—total	\$90.57	\$77.48	\$111.60	-----	-----	100.0	100.0	100.0	-----	-----	
Net increase in assets ¹	64.14	54.10	75.67	-----	-----	70.8	69.8	67.8	-----	-----	
Net decrease in liabilities ²	26.43	23.38	35.93	-----	-----	29.2	30.2	32.2	-----	-----	
Funds received from sources other than current income—total	65.46	52.08	99.93	-----	-----	100.0	100.0	100.0	-----	-----	
Net decrease in assets ³	16.86	7.44	42.17	-----	-----	25.8	14.3	42.2	-----	-----	
Net increase in liabilities ⁴	48.60	44.64	57.76	-----	-----	74.2	85.7	57.8	-----	-----	

¹ For example, increase in money in banks, making permanent improvements to owned home, or payment of life-insurance premiums, etc.² For example, payment on principal of mortgage on owned home, repayment of money borrowed, payment of balance owing on goods purchased in preceding year on installment plan, etc.³ For example, withdrawal of funds from bank, sale of property, surrender or settlement of insurance policy, receipt of payment of funds previously loaned to others, etc.⁴ For example, obligating one's self to pay a mortgage, borrowing from banks or other lenders, contracting to pay for goods on the installment plan, contracting other debts, etc.

This comparison shows clearly that while families at higher consumption levels have an ability to command credit if they so desire, they also have greater reserves to fall back upon. Consequently, their tendency is to draw first upon reserves and only secondarily to make substantial future commitments. Families at the lower con-

sumption levels, especially the Negro families, have in general such limited reserves that their principal means of spending funds in excess of current income must come from incurring debts. As their credit resources are limited, they cannot spend very much beyond current income.

In interpreting the data shown in table 5, one should guard against the assumption that the averages shown for net increase in assets and for net decrease in liabilities can be added to obtain average surplus. It is clear from the sample schedule entries discussed earlier that a surplus family may have had some net withdrawals from assets or increases in liabilities, so long as these were outweighed by net increases in assets and decreases in liabilities. Thus, it is the balancing of four sets of items, increase and decrease in liabilities, as well as increase and decrease in assets, which determines whether or not the family had a surplus. The combination of two of these items, increase in assets and decrease in liabilities, yields only the total of funds spent for items other than current living. It is the balance of this total with the complementary one for funds received from sources other than current income, which is equivalent to the surplus or deficit of the particular family or group of families under consideration.

Life Insurance

Far the most significant claim upon funds disposed for items other than current family consumption was for life-insurance¹⁵ premiums. Nine out of ten of the families surveyed reported such payments, and the average yearly payment per family purchasing was \$93. (See table 6.)

The universality of the practice of paying for life insurance among families of urban wage earners and clerical workers is indicated by the fact that the percentage of families reporting this item is almost as great at the lowest consumption level as at the highest shown in

¹⁵ It is recognized that most insurance-policy premiums include payments for several elements, only one of which is truly savings. The first is the actual cost of life-insurance protection during the year in question. This would amount to the cost on an actuarial basis of term insurance for 1 year at the actual age of the insured. Such cost is properly current family expenditure for insurance protection for the year. Another element is the part of the premium which goes toward operating costs of the insurance company. This element is especially large in the case of industrial insurance, which covers the expense of making weekly collections. This element is also not properly savings, but merely a form of current family expenditure. Any amounts included in the premium payments in excess of these two items, which accumulate in the form of net cashable value of the policy, are truly savings. To the extent that policies are allowed to lapse under terms which mean loss of payments previously made, even such payments can only doubtfully be classed as savings.

In a study among Federal employees carried on by the Bureau of Labor Statistics just prior to the initiation of this investigation, the schedule provided for securing information on the type of insurance covered by the premiums reported. It was found that very frequently informants were unable to provide the information; hence, the question was not included in the present schedule. It is, therefore, impossible to estimate how much of the amount paid in life-insurance premiums represents savings and how much was paid for insurance protection during the year or other services of the insurance company. The entire amount of such payments have therefore been treated as a disposition of funds for items other than current family expenditure, an increase in assets, and hence as savings. In using the figures on savings, the reader should make such allowances for this treatment as required by the purpose at hand.

table 6. Likewise, the average premium paid per family was relatively high, even at the lowest consumption level. There was a slight tendency for the proportion of families paying insurance premiums to be lower at the consumption levels representing total annual current expenditure per equivalent adult male of \$700 to \$800 and more.¹⁶ This is probably due to the relatively fewer families with children at those levels and the consequently less need felt for protection. A higher proportion of the families at those levels reported settlement of insurance policies.

TABLE 6.—Disposition of Funds Received During Survey Year Not Used for Current Family Expenditure, 14,469 Families of Wage Earners and Clerical Workers in 42 Cities

[Data cover 12 months within the period 1934-36]

Item for which funds were disposed	Percent of families disposing of funds for indicated items					Average amount per family disposing of funds				
	All-families	Families with total annual unit expenditure of—				All-families	Families with total annual unit expenditure of—			
		\$200 to \$300	\$500 to \$600	\$800 to \$900	\$1,100 to \$1,200		\$200 to \$300	\$500 to \$600	\$800 to \$900	\$1,100 to \$1,200
<i>Net increase in assets</i>										
Increase in cash:										
On hand.....	2.3	1.2	2.4	1.6	2.3	\$70.87	\$78.33	\$75.42	\$43.12	\$183.04
In checking account.....	1.2	(1)	1.0	2.7	1.8	150.00	186.05	151.00	195.56	138.33
In savings account.....	11.4	4.6	12.1	20.0	15.3	157.81	144.13	157.52	154.30	214.31
Investment in—										
Improvements in own home.....	3.7	3.3	3.1	4.1	5.0	150.00	140.91	177.42	160.49	174.00
Other real estate (including real-estate mortgages).....	.9	.6	1.0	.9	3.3	268.89	148.33	197.00	387.78	183.05
Building and loan shares.....	.9	.5	.7	1.8	.5	101.11	122.00	155.71	131.11	58.00
Stocks and bonds.....	.8	.3	1.1	1.3	1.8	165.00	70.00	142.73	225.38	62.22
Other property.....	1.1	.6	.9	1.3	7.9	176.36	55.00	98.89	189.23	435.70
Payments of premiums for insurance policies:										
Life insurance.....	88.6	87.8	90.5	84.7	90.0	92.81	82.22	98.14	105.29	107.16
Annuities.....	4.1	1.9	4.7	4.8	10.6	58.78	38.95	55.96	61.04	70.66
Increase in outstanding loans to others.....	1.8	1.0	2.3	3.3	1.5	91.67	54.00	137.83	93.64	29.33
<i>Net decrease in liabilities</i>										
Payment on principal of mortgages on own home.....	11.7	12.1	12.8	11.2	10.6	182.82	139.09	188.91	213.12	485.66
Payment on principal of other mortgages.....	1.5	1.6	2.0	.8	1.7	123.33	113.75	125.00	125.00	39.41
Payment of debts to—										
Banks.....	.5	.3	.8	.2	1.1	90.00	46.67	48.75	195.00	129.09
Insurance companies.....	.7	.5	.8	.7	0	55.71	52.00	82.50	38.57	0
Small-loan companies.....	2.1	3.9	1.9	1.6	1.0	75.24	61.79	77.89	110.62	244.00
Firms selling on installment plan:										
Automobiles.....	2.2	1.4	2.4	3.1	2.8	176.82	112.14	206.25	253.87	98.21
Other goods.....	9.5	10.3	9.4	9.7	6.9	77.26	53.69	86.38	100.72	94.49
Individuals.....	2.6	1.8	2.7	2.3	.7	85.38	67.22	100.37	113.04	221.43
Other.....	7.3	8.7	7.3	5.5	1.5	75.62	65.29	81.78	95.09	60.00

¹ Less than 0.05 percent.

An even higher percentage of the Negro than of the white families studied reported payment of insurance premiums. In general, about the same tendencies in the movement of this percentage from low to high consumption levels was noted for Negro families.¹⁶ The percentage was over 90 at all but the lowest consumption level, but

¹⁶ See tabular summary in forthcoming Bulletin No. 638.

dropped slightly at the \$700 and over unit-expenditure level. The premiums paid by Negro families averaged much less than for white families, however, and centered at a little over \$58 per family paying, the amounts being definitely greater the higher the consumption level.

As compared with the 90 out of 100 families paying insurance premiums, 7 out of 100 reported receipt of funds through surrender of insurance policies and 2 out of 100 through settlement of insurance policies (see table 8). The surrender rate was definitely greatest at the lowest consumption levels, where pressure upon current family income was greatest. The settlement rate, on the other hand, was greater at higher consumption levels. This suggests, in part, that families at those levels were better able to pay premiums until the maturity of the policy and consequently to receive its full returns. Families at the higher consumption levels were also relatively older and hence there were relatively more deaths of their parents; consequently they tended more frequently to receive settlements of policies paid for by persons inside the economic family. The average amount received per family surrendering a policy was \$130 and this average was larger at higher consumption levels. The average settlement was \$380, but there was no clear relationship between this average and consumption level.

A much lower proportion of the Negro families studied, 3 percent, reported surrender of insurance policies than of white families for whom the percentage was over 7.¹⁶ About the same proportion of the Negro families, 2 percent, reported settlement of insurance policies. Although the average premiums paid by Negro families were higher, the average amounts received by Negro families for surrender, \$74, and for settlement, \$189, were substantially lower than the corresponding figures for white families. Even at the comparable consumption level of \$200 to \$300 total annual unit expenditure, the average amounts received in surrender and settlement, respectively, by Negro families were about half the corresponding average amounts received by white families. The proportion of white families reporting surrender of policies at that consumption level was 9.8 compared with 3.7 for the Negro families.

In general, therefore, it appears that the Negro families held on to their insurance policies more tenaciously than did the white families during the partial recovery period of 1934-36. A slightly higher proportion reported premium payments, but a much lower proportion reported surrender. At a comparable consumption level, the white families making premium payments averaged payments about 50 percent greater than Negro families, while, at the same consumption level, white families surrendering policies received payments twice as great as Negro families.

¹⁶ See tabular summary in forthcoming Bulletin No. 638.

Savings Items Other Than Life Insurance

After life-insurance premiums, the second most frequently reported form of disposition of funds other than for current living was payment on principal of mortgage on owned home, indicated by 12 percent of the families surveyed. The average payment on the mortgage was \$182. Though the percentage of families reporting such payment showed little change by consumption level, the average amount of such payments per family making them showed a sharp rise from \$139 at the lowest consumption level to \$486 at the highest shown in table 6. The uncertainties of job tenure and ever-present possibility of having to move to a new locality to seek work, apparently operate to prevent families who might be financially able from buying homes.

Taking aggregate disbursements of the families surveyed for items other than current family living, insurance premiums alone accounted for 50 percent of the total.¹⁶ Payment of principal on mortgage on owned home was slightly greater than aggregate increase in savings accounts, and these two items combined contributed another 24 percent of the total. Payments on old installment accounts for goods other than automobiles constituted about 4 percent of such disbursements, and the addition of payments on automobiles purchased on installment prior to the survey year brings the total for all installment payments for goods previously purchased to 7 percent of total noncurrent-consumption disbursements. No other single item of increase in assets or decrease in liabilities accounted for over 3 percent of such aggregate disbursements.

Most families in the survey, however, reported changes in assets or liabilities of only two or three types. The average amounts paid per family having such disbursements are shown in table 6. There it is seen that for families making such disposition of funds, a good many items bulked larger than insurance premiums. The largest item of all, on that basis, was investment in real estate other than the family home, and the second was payment of principal on mortgage on owned home. For the latter item, as well as for most though not all of the other items shown in table 6, the average amount per family disbursing was greater at higher consumption levels.

Net increase in cash in savings accounts was reported by 11 percent of the families, and this percentage showed a sharp tendency to rise at higher consumption levels. The average amount of such increase per family having an increase, however, showed no regular tendency to be greater at higher consumption levels, ranging from \$144 to \$214 for the levels shown in table 6.

¹⁶ See tabular summary in forthcoming Bulletin No. 638.

The next most frequently reported form of disposition of family funds for items other than current living, was reduction of installment obligations incurred prior to the schedule year for furniture and equipment and other goods, except automobile. These were followed by reductions in miscellaneous debts, in which were included bills owing doctors, grocers, stores, etc. No other form of net increase in assets or decrease in liabilities was reported by as many as 5 percent of the families.

In general, the percentage of families reporting increase in a given asset item or decrease in a liability item tended to remain about the same or to increase slightly at higher consumption levels with a few notable exceptions. Items for which the percentage of families reporting was notably higher at higher consumption levels were increase in cash in savings accounts and payment of annuity premiums. For this group of families such forms of savings partake of the nature of luxuries. Items, on the other hand, reported by a smaller proportion of families at high consumption levels were repayments of debts to small loan companies, reduction in old balances owing for goods other than automobile sold on the installment plan, and reduction in miscellaneous debts. These items apparently represent forms of debt avoided when economic circumstances permit and hence on the docket for repayment by relatively fewer families at high than at low consumption levels.

In general, the same tendencies were found among Negro families as among white families studied in their disposition of funds for items other than current living. Table 7 gives a comparison of the items reported by the largest proportions of each group.

TABLE 7.—*Principal Items for Which Funds Were Disposed Other Than for Current Family Living, 12,903 White Families in 42 Cities and 1,566 Negro Families in 16 Cities*

[Data cover 12 months within the period 1934-36]

Item	Percent of white families reporting	Item	Percent of Negro families reporting
1. Life-insurance premiums.....	88.5	1. Life-insurance premiums.....	91.3
2. Principal on mortgage on owned home.....	11.8	2. Payment on old debts to firms selling goods other than automobiles on the installment plan.....	16.4
3. Increase in savings account.....	11.6	3. Principal on mortgage on owned home.....	9.0
4. Payment of old debts to firms selling goods other than automobiles on installment plan.....	9.2	4. Increase in savings account.....	6.1
5. Payment of miscellaneous old debts.....	7.4	5. Payment of miscellaneous old debts.....	4.3
6. Annuity premiums.....	4.1	6. Annuity premiums.....	4.0

As with the white families, most items of increase in assets or decrease in liabilities were reported by the same or a slightly higher proportion of Negro families at higher consumption levels, with important exceptions for increases in savings accounts and payments of

annuity premiums, each of which showed a substantially greater proportion at higher levels. Items showing a general downward tendency in proportion of Negro families reporting were, as for white families, repayments to small loan companies and reductions in miscellaneous old debts. The movement of the percentages at different consumption levels of Negro families reporting for individual items was frequently less regular than for white families, due to the smaller number of Negro families studied and the consequent, greater influence upon the average of one or two families making unusual disbursements.

Funds From Sources Other Than Current Income

On the other side of the family balance sheet, funds in addition to current income were made available from withdrawals from previously accumulated assets, or increases in obligations of various types, or from inheritance. Less than 1 percent of the families received inheritances, however, so that item is of negligible importance in any aggregate sense. For the few families involved, inheritance was, however, a substantial item, averaging almost \$400.

Three items stand out as the form of deficit financing used by the largest numbers of families studied (see table 8). Net increases in miscellaneous debts (chiefly in the form of open accounts owing to merchants, doctors, and other suppliers of goods and services) were reported by a fourth of the families surveyed, though the proportion declined at higher consumption levels. Net increase in obligations for goods other than automobiles purchased during the survey year on the installment plan were reported by 24 percent of the families. This percentage showed no regular tendency to decline at higher consumption levels. The third major source of nonincome funds was net withdrawal from savings accounts, reported by a fifth of all the families surveyed. This percentage rose sharply at higher consumption levels, indicating that such families were better able to meet unusual expenses by resort to savings and found it less necessary to go into debt.

In the aggregate for all families surveyed, over a fourth of all non-income funds came from net withdrawals from savings accounts. About 19 percent came from net increases in installment obligations for automobiles and other goods and another 13 percent from borrowing from individuals. Surrender of insurance policies accounted for another 6 percent, while approximately as much came from borrowing from insurance companies and small loan companies combined. Settlement of insurance policies accounted for another 4 percent of aggregate nonincome funds drawn upon by the families surveyed. No other item of decrease in assets, increase in liabilities, or inheritance accounted for as much as 4 percent of the total.

In terms of amounts obtained per family drawing on each such source of funds (see table 8), the greatest item was sale of real estate, followed by inheritance and then by settlement of insurance policies. The smallest yield per family drawing on that source came from sale of goods and chattels, and the next smallest item on that basis was installment debts for goods other than automobile.

TABLE 8.—Funds Made Available During the Survey Year for Family Use From Sources Other Than Current Income, at Selected Consumption Levels, 14,469 Families of Wage Earners and Clerical Workers in 42 Cities

[Data cover 12 months within the period 1934-36]

Funds made available for family use from sources other than family income in schedule year	Percent of families receiving funds from indicated source					Average amount per family receiving				
	All families	Families with total annual unit expenditure of—				All families	Families with total annual unit expenditure of—			
		\$200 to \$300	\$500 to \$600	\$800 to \$900	\$1,100 to \$1,200		\$200 to \$300	\$500 to \$600	\$800 to \$900	\$1,100 to \$1,200
<i>Net decrease in assets</i>										
Reduction in cash:										
On hand.....	3.4	2.4	4.2	3.6	7.4	\$133.24	\$109.58	\$129.29	\$187.50	\$121.76
In checking account.....	1.6	1.0	1.9	3.8	10.1	245.62	106.00	152.63	172.11	359.41
In savings account.....	19.0	10.2	21.4	24.5	35.1	221.74	150.39	227.10	265.59	425.93
Sale of property:										
Real estate (including real estate mortgages).....	.4	.5	.4	.5	1.0	487.50	210.00	640.00	246.00	570.00
Building and loan shares.....	.6	.2	.8	1.0	0	285.00	290.00	273.75	187.00	0
Stocks and bonds.....	.9	.2	1.2	1.7	5.8	291.11	155.00	205.83	451.76	463.28
Goods and chattels.....	2.8	2.5	2.9	3.9	2.6	55.71	33.20	61.38	51.79	276.15
Other property.....	.7	.6	.6	1.8	.6	84.29	75.00	76.67	156.11	133.33
Insurance policies:										
Surrender.....	7.2	9.3	6.7	5.6	4.9	129.72	115.81	123.13	161.96	154.29
Settlement.....	1.7	1.4	1.4	2.9	1.7	380.59	158.57	305.00	731.72	153.53
Receipts from outstanding loans to others.....	1.9	1.0	2.0	3.5	8.2	127.89	84.00	151.00	115.71	343.66
<i>Net increase in liabilities</i>										
Increase in mortgages on own home.....	1.3	1.6	1.3	1.5	.5	354.62	196.25	387.69	226.00	888.00
Increase in other mortgages.....	.3	.4	.3	.5	0	210.00	62.50	213.33	294.00	0
Increase in debts:										
Payable to banks.....	1.4	1.1	1.8	1.0	1.7	133.57	50.91	152.22	159.00	52.35
Payable to insurance companies.....	4.0	4.1	4.3	3.7	5.4	131.00	80.00	133.02	172.97	163.33
Payable to small-loan companies.....	5.4	5.4	4.8	5.8	2.3	96.11	77.04	100.62	114.66	60.00
Payable to firms selling on installment plan:										
Automobiles.....	5.2	1.6	5.1	9.0	20.6	201.35	93.12	171.76	254.22	308.20
Other goods.....	24.3	22.9	24.4	25.8	21.8	74.69	49.87	76.48	106.82	157.71
Payable to individuals.....	8.1	10.9	8.5	7.1	6.9	125.43	88.62	141.41	217.18	323.33
Other debts.....	24.9	36.9	20.6	19.6	18.5	78.47	72.36	82.23	85.15	80.27
Inheritances.....	.6	.7	.3	.8	.7	398.33	237.14	616.67	1,001.25	140.00

Five percent of the families reported net increase in debt to small-loan companies and the same proportion found the year's end left them with a net increase in installment obligations for automobiles purchased during the year. The former percentage was lower at higher consumption levels, whereas the percentage increasing automobile obligations rose strikingly at higher consumption levels. Four percent of the families borrowed from insurance companies but less than 1½ percent from banks, while as many as 8 percent borrowed

from individuals. Seven percent surrendered insurance policies for whatever cash value they commanded. No other source of non-income funds was reported by as many as 4 percent of the families surveyed.

In general there was a tendency for the average per family drawing upon each such source of nonincome funds to be greater at higher consumption levels. The tendency was irregular in many instances, however, because of the relatively small proportion of families reporting.



CHANGES IN COST OF LIVING FROM DECEMBER 15, 1939, TO MARCH 15, 1940

THE cost of living for wage earners and lower-salaried workers changed very little between December 15, 1939, and March 15, 1940. Somewhat higher food costs, as well as higher costs for all other groups except housefurnishings and miscellaneous items, were responsible for such advance as occurred—0.3 percent. The cost of living in March 1940 was 9.9 percent higher than in June 1933 and 18.7 percent lower than in December 1929.

The cost-of-living index upon which these changes were estimated is based on a new list of items revised to represent current consumption habits. The relative weight of each item in the revised index is based on the distribution of expenditures as shown by the 1934-36 study of family expenditures of wage earners and lower-salaried workers made by the Bureau of Labor Statistics. The more important additions to the list of commodities and services priced quarterly by the Bureau are automobiles, gasoline, fuel oil, electric refrigerators, radios, dry cleaning, and beauty-shop services. With the inclusion of Manchester, N. H., the Bureau now covers 33 cities in these surveys.

In accordance with a recommendation of the Central Statistical Board, an average of the years 1935-39 is used as a base in presenting the revised indexes of living costs for wage earners and lower-salaried workers. This base has been recommended by the Central Statistical Board for adoption by Federal agencies which prepare general-purpose index numbers.

Differences in changes in living costs as shown by the revised as compared with the unrevised data are relatively slight. The increase in living costs from the low point of June 1933 to March 15, 1940, was approximately 10 percent, based on both the revised and unrevised data (9.9 percent on the revised, 10.5 percent on the unrevised basis). Costs of food and housefurnishings items showed the greatest differences in movement when calculated with the two sets of data. The revised food-cost index showed an increase of 16.4 percent from June 1933 to March 1940; the unrevised increased 18.9 percent. Increases in the relative importance of citrus fruits and

green vegetables and decreased weight on cereals, potatoes, and apples contributed largely to the difference. The housefurnishings index based on the revised figures increased considerably less over this 7-year period—23.4 percent, as compared with 26.5 percent for the unrevised index—largely due to the added weight for items of electrical equipment, which have declined in price since 1933.

For the first quarter of this year the change in total living costs for the 33 cities combined, calculated on the revised index, reflected increases in 17 cities and decreases in 16. Changes in all cities were slight, none in excess of 1.4 percent. Food, clothing, rent, and fuel, electricity, and ice were responsible for whatever increases occurred.

Food costs, on the average, showed a net increase of 0.8 percent. They were higher in 20 cities and lower in 13 at the end of the quarter. Boston and Manchester showed the largest advances—3.3 and 3.0 percent, respectively.

Clothing costs increased in all but two cities, and in those two the declines were negligible. The net change in clothing costs was a rise of 0.7 percent. In no city was there a change of as much as 2 percent.

Rental costs, on the average, remained at approximately the same level as at the beginning of the quarter. In 25 cities advances were noted, but all were slight, in no case exceeding 0.7 percent. In 8 cities, insignificant declines were reported.

The cost of fuel, electricity, and ice rose on the average 0.7 percent. Increases were reported in 20 cities, slight for the most part. Only in Birmingham was the increase as much as 2.5 percent. Eleven cities reported decreases. In most cases the drop was small, but in Norfolk it amounted to 7.2 percent and in Portland, Oreg., to 6.3 percent. In Norfolk the decline was due to a drop in bituminous-coal costs and in Portland to a decline in the cost of electricity for domestic use.

The only group for which a consistent drop in costs was shown was housefurnishings, for which a net decrease of 2.1 percent was shown. Only one city, Savannah, reported an increase. In that city, the advance of 1.6 percent was the result of general increases in the cost of items included in that group, particularly suites of furniture. Of the 32 cities reporting declines, 2 reported decreases of around 5 percent—Kansas City (5.0 percent) and St. Louis (4.8 percent), in both cases chiefly as a result of the lower cost of electric refrigerators.

The net change in the cost of miscellaneous items was a drop of 0.1 percent, reflecting advances in 12 cities and declines in 21. All changes were slight, in no case exceeding 2 percent.

Table 1 presents, by groups of items, percentage changes calculated from revised data from December 15, 1939, to March 15, 1940, in the cost of goods purchased by wage earners and lower-salaried workers in 33 large cities of the United States.

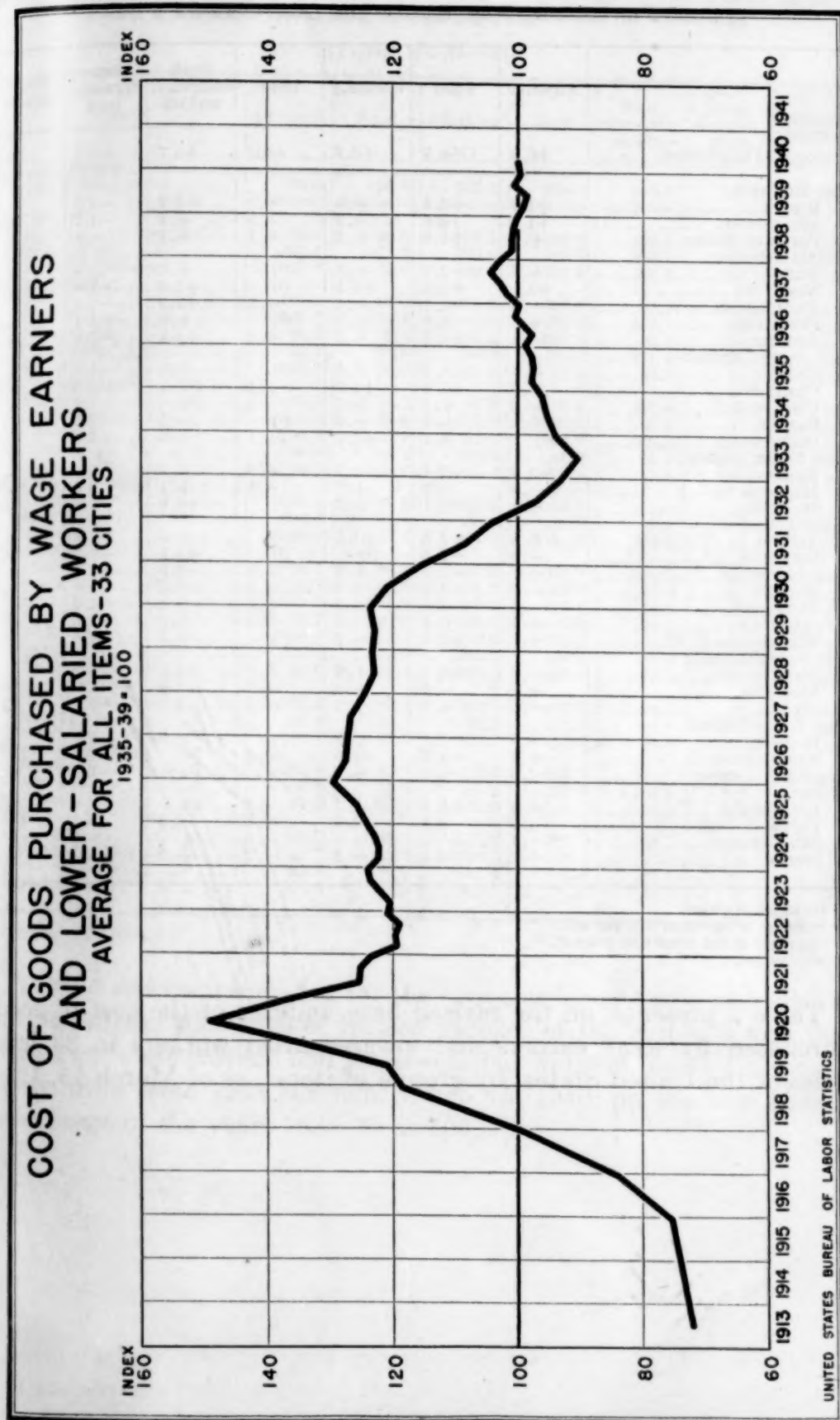


TABLE 1.—Percentage Change From December 15, 1939, to March 15, 1940, in Cost of Goods Purchased by Wage Earners and Lower-Salaried Workers

City	All items	Food	Clothing	Rent	Fuel, electricity, and ice	House furnishings	Miscellaneous
Average: 33 large cities.....	+0.3	¹ +0.8	+0.7	+0.1	+0.7	-2.1	-0.1
New England:							
Boston.....	+1.4	+3.3	+5	+1	+2.2	-3.0	+2
Manchester.....	+1.2	+3.0	+3	+6	+4	-1.7	+3
Portland, Maine.....	+3	+1.0	+2	+1	+1	-8	-2
Middle Atlantic:							
Buffalo.....	+8	+2.4	-1	(²)	+8	-1.4	+1
New York.....	+1.1	+2.8	+1.1	(²)	+1.4	-2.4	-1
Philadelphia.....	-3	-1.1	+3	+2	+1.0	-1.2	(³)
Pittsburgh.....	+3	+6	+5	(³)	+3	-1.1	+2
Scranton.....	+1.1	+1.3	+1	+4	+1.8	-1.0	+1.9
East North Central:							
Chicago.....	-1	-4	+5	(²)	+2	-1.7	(³)
Cincinnati.....	+2	+1.0	+1.1	+1	(²)	-3.2	-4
Cleveland.....	-2	+2	+5	(²)	(³)	-1.0	-8
Detroit.....	+1	+4	+3	(²)	-1	-2.5	+1
Indianapolis.....	(³)	+1	+1.7	+1	+2	-2.1	-3
West North Central:							
Kansas City.....	-1.0	-2.4	+1.2	+2	-2	-5.0	-7
Minneapolis.....	-4	-9	+7	+1	+1	-2.8	-3
St. Louis.....	-1	+1	+7	(³)	+1.6	-4.8	-2
South Atlantic:							
Atlanta.....	+8	+2.6	+1.5	(²)	-5	-2.9	+3
Baltimore.....	+8	+2.2	(²)	(²)	+1.4	-1.3	+1
Jacksonville.....	-5	-1.6	+9	+4	-1.6	-2.8	+4
Norfolk.....	-8	-1.0	+1.3	+2	-7.2	-6	-1
Richmond.....	-4	-1.5	+1.1	+1	+1	-1.3	(³)
Savannah.....	+4	+4	+1.8	+1	-5	+1.6	-1
Washington, D. C.....	+7	+2.4	+2	(³)	+7	-4.6	+8
East South Central:							
Birmingham.....	-2	-1.1	+9	+7	+2.5	-3.2	-3
Memphis.....	-5	-6	+4	+1	-1.8	-2.3	-3
Mobile.....	-6	+5	+1	+3	-1.1	-2.3	-2.0
West South Central:							
Houston.....	-5	-1.1	+8	(²)	+3	-2.1	-5
New Orleans.....	+5	+1.3	+5	+1	(⁴)	-1.6	(³)
Mountain: Denver.....	-1.0	-1.1	+4	(²)	(²)	-2.2	-1.8
Pacific:							
Los Angeles.....	+3	+1.1	+3	-2	(⁴)	-6	-1
Portland, Oreg.....	-1.1	-2.3	+1.5	-1	-6.3	-2.1	-2
San Francisco.....	-4	-1.2	+4	-1	(²)	-3	-1
Seattle.....	+7	+2.2	+5	-2	+2	-1.7	+1

¹ Includes 51 cities.² Increase of less than 0.05 percent.³ Decrease of less than 0.05 percent.⁴ No change.

Table 2 presents, on the revised base, indexes of the cost of goods purchased by wage earners and lower-salaried workers in 33 large cities of the United States, by groups of items, as of March 15, 1940.

TABLE 2.—Indexes of Cost of Goods Purchased by Wage Earners and Lower-Salaried Workers, March 15, 1940

[Average 1935-39=100]

City	All items	Food	Clothing	Rent	Fuel, electricity, and ice	House furnishings	Miscellaneous
Average: 33 large cities.....	99.8	95.6	102.3	104.5	100.6	100.5	100.8
New England:							
Boston.....	99.2	95.9	101.1	100.4	106.7	97.9	100.1
Manchester.....	100.1	97.8	100.4	102.3	102.2	100.6	101.5
Portland, Maine.....	97.8	92.9	100.3	100.8	101.1	100.1	99.3
Middle Atlantic:							
Buffalo.....	100.5	96.6	101.0	105.8	99.2	100.2	101.9
New York.....	101.2	99.8	101.9	102.6	100.1	98.4	102.5
Philadelphia.....	98.3	93.2	101.5	103.0	98.6	102.3	100.8
Pittsburgh.....	99.1	93.8	102.9	105.1	101.5	101.8	99.1
Seranton.....	98.4	96.4	101.9	98.2	96.3	98.9	100.8
East North Central:							
Chicago.....	99.7	94.2	99.9	108.5	102.8	101.5	99.7
Cincinnati.....	98.4	92.6	103.9	102.2	99.7	100.7	100.4
Cleveland.....	100.7	95.9	102.0	107.6	100.5	100.9	99.5
Detroit.....	99.9	94.5	102.0	107.9	98.8	100.3	99.9
Indianapolis.....	99.6	94.0	103.4	109.4	97.8	100.8	99.4
West North Central:							
Kansas City.....	98.3	91.2	103.3	102.8	97.9	97.1	101.6
Minneapolis.....	100.7	97.1	100.9	107.9	96.8	102.7	100.9
St. Louis.....	99.0	95.2	103.1	101.5	103.0	96.4	100.3
South Atlantic:							
Atlanta.....	99.5	96.0	102.0	104.1	100.7	97.1	100.1
Baltimore.....	99.7	96.6	101.7	103.6	98.2	101.4	100.6
Jacksonville.....	98.9	95.9	101.7	103.6	95.3	99.8	99.3
Norfolk.....	97.7	93.0	102.7	102.1	92.2	99.8	100.3
Richmond.....	98.4	91.1	104.0	102.8	100.7	102.9	100.2
Savannah.....	100.0	97.3	102.2	104.4	97.7	104.6	99.9
Washington, D. C.....	99.6	96.1	103.0	100.0	99.2	101.4	101.0
East South Central:							
Birmingham.....	99.3	92.0	102.7	112.3	94.1	98.5	100.6
Memphis.....	98.5	92.3	102.2	104.9	94.0	102.4	100.6
Mobile.....	99.1	96.2	100.7	105.6	96.4	101.9	99.0
West South Central:							
Houston.....	100.8	97.7	102.9	106.7	95.7	104.9	100.0
New Orleans.....	100.9	99.8	101.6	102.9	101.8	102.7	100.5
Mountain: Denver.....	98.7	93.9	100.0	106.7	97.8	101.5	98.9
Pacific:							
Los Angeles.....	100.7	95.6	103.6	107.2	95.5	101.4	102.0
Portland, Oreg.....	99.7	95.6	103.1	106.2	92.7	100.3	101.2
San Francisco.....	99.8	95.0	103.0	103.6	91.8	102.9	102.3
Seattle.....	101.6	98.7	103.7	106.6	98.3	99.4	102.6

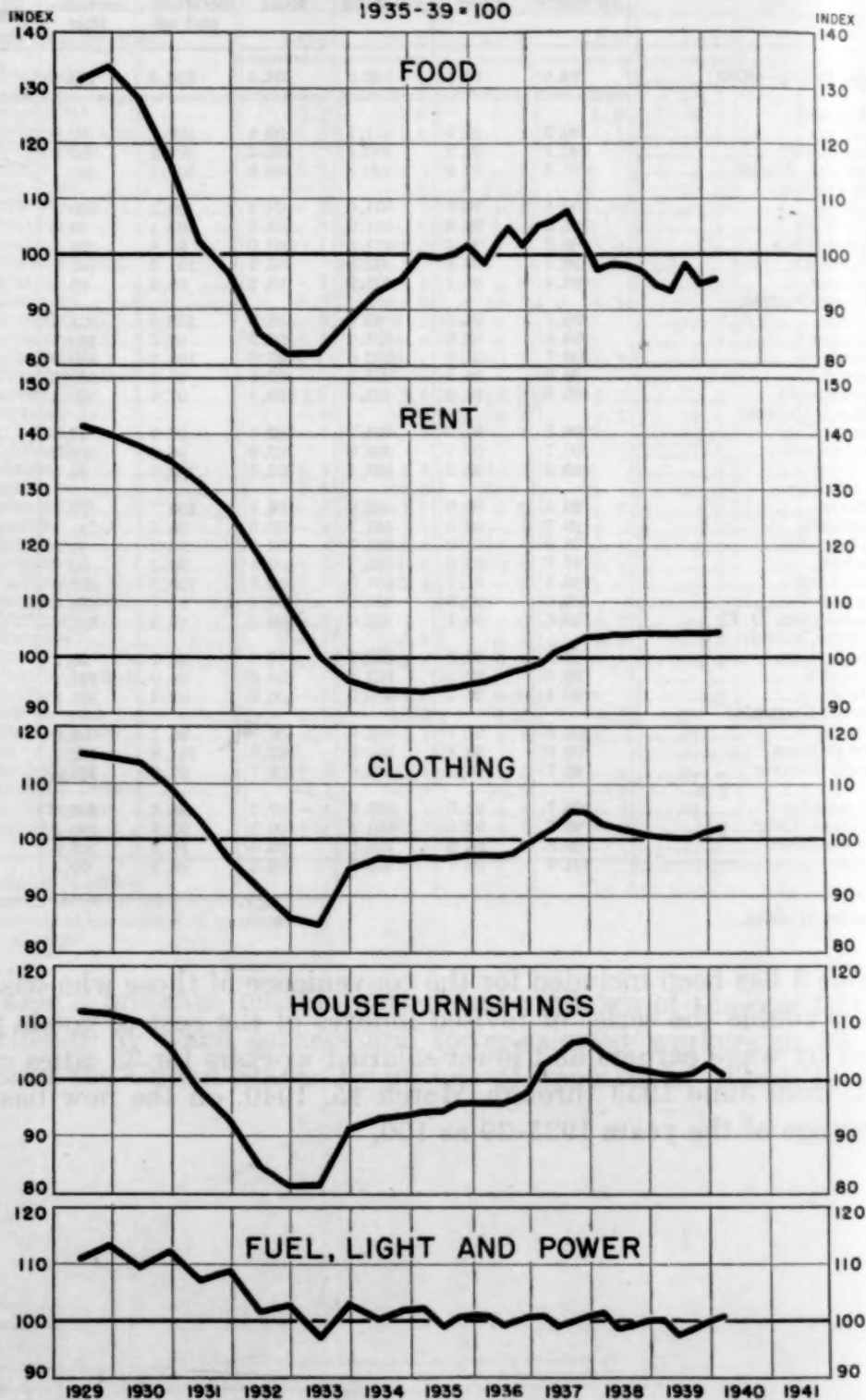
† Includes 51 cities.

Table 3 has been included for the convenience of those who wish to have available the series of revised indexes of the cost of goods purchased by wage earners and lower-salaried workers for 33 cities combined, from June 1933 through March 15, 1940, on the new base of an average of the years 1935-39 as 100.

**COST OF GOODS PURCHASED BY WAGE EARNERS
AND LOWER-SALARIED WORKERS**

AVERAGE FOR 33 LARGE CITIES

1935-39 = 100



UNITED STATES BUREAU OF LABOR STATISTICS

TABLE 3.—*Revised Indexes of Cost of Goods Purchased by Wage Earners and Lower Salaried Workers in 33 Large Cities Combined, June 1933 to March 15, 1940*

[Average 1935-39=100]

Date	All items	Food ¹	Clothing	Rent	Fuel, electricity and ice	House-furnishings	Miscellaneous
1933—June 15.....	90.8	82.2	84.8	100.1	97.2	81.5	97.8
December 15.....	93.9	88.1	94.4	95.8	102.9	91.1	98.1
1934—June 15.....	95.3	93.0	96.6	94.0	100.3	92.9	97.9
November 15.....	96.2	95.4	96.5	93.9	101.8	93.6	97.8
1935—March 15.....	97.8	99.7	96.8	93.8	102.1	94.2	98.1
July 15.....	97.6	99.4	96.7	94.1	99.0	94.5	98.2
October 15.....	98.0	100.0	96.9	94.6	100.5	95.7	97.9
1936—January 15.....	98.8	101.5	97.3	95.1	100.8	95.8	98.2
April 15.....	97.8	98.4	97.4	95.5	100.8	95.7	98.4
July 15.....	99.4	102.6	97.2	96.5	99.1	95.9	98.7
September 15.....	100.4	104.8	97.5	97.1	99.9	96.6	99.0
December 15.....	99.8	101.6	99.0	98.1	100.5	97.9	99.1
1937—March 15.....	101.8	105.0	100.9	98.9	100.8	102.6	100.2
June 15.....	102.8	106.0	102.5	101.0	99.2	104.3	100.9
September 15.....	104.3	107.9	105.1	102.1	100.0	106.7	101.7
December 15.....	103.0	102.7	104.8	103.7	100.7	107.0	102.0
1938—March 15.....	100.9	97.5	102.9	103.9	101.2	104.7	101.6
June 15.....	100.9	98.2	102.2	104.2	98.6	103.1	101.8
September 15.....	100.7	98.1	101.4	104.2	99.3	101.9	101.6
December 15.....	100.2	97.2	100.9	104.3	100.0	101.7	101.0
1939—March 15.....	99.1	94.6	100.4	104.3	100.1	100.9	100.5
June 15.....	98.6	93.6	100.3	104.3	97.5	100.6	100.4
September 15.....	100.6	98.4	100.3	104.4	98.6	101.1	101.1
December 15.....	99.6	94.9	101.3	104.4	99.9	102.7	100.9
1940—March 15.....	99.8	95.6	102.0	104.5	100.6	100.5	100.8

¹ Covers 51 cities.

Table 4 presents unrevised indexes of the cost of goods purchased by wage earners and lower salaried workers, for 32 cities combined, from June 1933 through December 15, 1939; also on the new base of an average of the years 1935-39 as 100.

Complete details covering the revision of the Bureau of Labor Statistics' index of cost of living are available on request to the Bureau. An article summarizing changes in method and the differences in changes in living costs, as shown by the revised as compared with the unrevised data, and describing the procedures used in calculating the index will appear in a forthcoming issue of the Monthly Labor Review.

TABLE 4.—Unrevised Indexes of Cost of Goods Purchased by Wage Earners and Lower Salaried Workers in 32 Large Cities Combined, June 1933 to December 15, 1939

[Average 1935-39=100]

Date	All items	Food ¹	Clothing	Rent	Fuel and light	House-furnishings	Miscellaneous
1933—June 15.....	90.4	80.3	85.0	100.1	97.5	80.8	98.8
December 15.....	93.8	86.1	94.6	95.8	103.4	90.3	99.1
1934—June 15.....	95.1	90.9	96.8	94.0	100.7	92.1	99.0
November 15.....	96.0	93.3	96.7	93.9	102.2	92.8	99.1
1935—March 15.....	97.8	98.8	96.9	93.8	102.5	93.4	99.2
July 15.....	97.6	99.3	96.6	94.0	97.5	93.6	99.0
October 15.....	98.0	99.2	97.0	94.9	100.7	94.6	98.9
1936—January 15.....	98.7	101.0	97.3	95.1	101.4	94.6	98.9
April 15.....	97.9	98.3	97.6	95.5	101.0	94.9	98.9
July 15.....	99.6	104.0	97.4	96.2	98.8	95.1	98.7
September 15.....	100.0	104.4	97.7	96.9	100.3	96.0	98.8
December 15.....	100.0	102.6	98.9	98.1	100.8	97.3	99.1
1937—March 15.....	101.7	105.7	100.6	98.8	101.2	102.1	99.6
June 15.....	102.6	106.8	102.0	101.1	97.5	104.5	100.1
September 15.....	103.2	106.2	104.4	102.1	98.8	106.5	100.4
December 15.....	102.6	102.2	104.4	103.9	100.3	107.4	101.0
1938—March 15.....	100.7	97.2	102.9	104.0	101.0	104.9	100.9
June 15.....	101.2	99.2	102.2	104.4	98.1	103.9	101.1
September 15.....	100.4	97.3	101.5	104.3	99.6	102.5	101.0
December 15.....	100.4	97.2	101.2	104.4	101.0	102.3	101.0
1939—March 15.....	99.6	94.6	100.7	104.3	101.5	102.2	100.9
June 15.....	99.2	94.4	100.6	104.2	98.1	102.2	100.9
September 15.....	100.4	97.8	100.6	104.2	98.8	102.6	101.1
December 15.....	99.8	95.1	101.5	104.1	100.1	104.0	100.8

¹ Covers 51 cities.

Industrial Disputes

TREND OF STRIKES

PRELIMINARY estimates of strike activity in May indicate a seasonal rise over preceding months. Estimates for May show 230 strikes, 50,000 workers involved, and 650,000 man-days idle. As compared with April, the increases in May amounted to 12 percent in number of strikes, 19 percent in number of workers involved, and 44 percent in man-days of idleness. There were no strikes in May involving more than 7,000 workers. The two largest disputes of the month were the strike of dairy workers in Chicago from May 1 to May 3, and the strike of the Federal Shipbuilding & Drydock Co. in Kearny, N. J., which began May 31 and ended June 2. Neither of them caused a great deal of idleness, because of their short duration.

Trend of Strikes, 1933 to May 1940¹

Year and month	Number of strikes					Workers involved in strikes		Man-days idle during month or year
	Continued from preceding month	Beginning in month or year	In progress during month	Ended in month	In effect at end of month	Beginning in month or year	In progress during month	
1933.....		1,695				1,168,272		16,872,128
1934.....		1,856				1,466,695		19,591,949
1935.....		2,014				1,117,213		15,456,337
1936.....		2,172				788,648		13,901,956
1937.....		4,740				1,860,621		28,424,857
1938.....		2,772				688,376		9,148,273
1939.....		2,613				1,170,962		17,812,219
<i>1939</i>								
January.....	120	203	323	184	139	51,150	72,427	513,460
February.....	139	204	343	204	139	68,252	88,267	553,138
March.....	139	210	349	199	150	43,337	64,660	618,147
April.....	150	281	431	255	176	396,166	425,748	4,902,238
May.....	176	258	434	272	162	95,239	457,407	3,547,868
June.....	162	245	407	269	138	62,534	127,474	958,127
July.....	138	251	389	216	173	175,542	211,548	1,168,382
August.....	173	275	448	272	176	79,670	118,772	1,101,419
September.....	176	197	373	222	151	36,846	103,538	892,485
October.....	151	205	356	217	139	106,628	139,608	1,508,120
November.....	139	178	317	201	116	43,239	130,341	1,664,574
December.....	116	106	222	128	94	12,350	37,122	384,261
<i>1940</i>								
January.....	94	104	198	114	84	24,724	39,071	236,829
February.....	84	134	218	126	92	27,798	35,907	276,087
March.....	92	131	223	138	85	20,705	40,415	365,138
April.....	85	205	290	175	115	42,000	55,000	450,000
May.....	115	230	345	210	135	50,000	75,000	650,000

¹ Strikes involving fewer than 6 workers or lasting less than 1 day are not included in this table nor in the following tables. Notices or leads regarding strikes are obtained by the Bureau from more than 650 daily papers, labor papers, and trade journals, as well as from all Government labor boards. Letters are written to representatives of parties in the disputes asking for detailed and authentic information. Since answers to some of these letters have not yet been received, the figures given for the late months are not final. This is particularly true with regard to figures for the last 2 months, and these should be considered as preliminary estimates.

Strike activity in May 1940 was at a much lower level than in May 1939, when the large bituminous-coal stoppage was still in progress. There were only 89 percent as many strikes in May 1940 as in May a year ago, 52 percent as many workers involved, and 18 percent as many man-days idle.

The figures given in the foregoing table for April and May 1940 are preliminary estimates based on newspaper reports and other information available as this goes to press. An analysis of strikes in each of these months, based on detailed and verified information, will appear in subsequent issues of the Monthly Labor Review.



STRIKES IN MARCH 1940¹

CONTRARY to the usual seasonal trend, there were slightly fewer strikes in March than there were in February. The number of workers involved was about 25 percent less, although the number of man-days idle was 32 percent more. Detailed information has been obtained on 131 strikes which began in March, involving over 20,000 workers. These strikes, with 92 that continued into March from preceding months, made a total of 223 strikes in progress during the month, involving more than 40,000 workers and resulting in 365,000 man-days of idleness during the month.

The industry groups having the greatest number of strikes beginning in March were textiles and their products (15), domestic and personal service (14), trade (13), and building and construction (12). The strikes in these four groups accounted for 41 percent of the total. Of the 20,705 workers involved in strikes beginning in March, the largest number were in the following industry groups: Iron and steel (3,513), extraction of minerals (3,181), lumber and allied products (3,143), and textiles (1,730). The industry groups having the most man-days of idleness were transportation and communication (52,997), lumber (47,604), textiles (37,347), and iron and steel (33,078).

¹ Detailed information on a few strikes has not yet been received. (See footnote to preceding table.) Data on missing strikes will be included in the annual report.

TABLE 1.—*Strikes in March 1940, by Industry*

Industry	Beginning in March		In progress during March		Mandays idle during March
	Number	Workers involved	Number	Workers involved	
All industries	131	20,705	223	40,415	385,138
Iron and steel and their products, not including machinery	6	3,513	12	7,330	33,078
Blast furnaces, steel works, and rolling mills	1	275	2	2,989	6,803
Cast-iron pipe and fittings			1	280	5,880
Hardware			1	231	924
Plumbers' supplies and fixtures			1	411	1,644
Structural and ornamental metal work	1	1,100	1	1,100	5,500
Tin cans and other tinware	1	110	2	190	2,010
Tools (not including edge tools, machine tools, files and saws)			1	101	2,121
Wire and wire products	1	78	1	78	546
Other	2	1,950	2	1,950	7,650
Machinery, not including transportation equipment	3	441	11	1,620	6,363
Agricultural implements			2	490	942
Electrical machinery, apparatus, and supplies			2	137	541
Foundry and machine-shop products	1	10	4	514	2,241
Machine tools (power driven)	1	150	1	150	1,350
Other	1	281	2	329	1,289
Transportation equipment	1	690	5	2,114	31,211
Automobiles, bodies and parts			2	118	1,025
Cars, electric- and steam-railroad			1	1,034	21,714
Shipbuilding	1	690	1	690	2,760
Other			1	272	5,712
Nonferrous metals and their products	2	608	2	608	5,114
Stamped and enameled ware	2	608	2	608	5,114
Lumber and allied products	11	3,143	17	4,013	47,604
Furniture	7	1,488	11	1,801	26,459
Sawmills and logging camps	1	478	2	579	6,342
Other	3	1,177	4	1,633	14,803
Stone, clay, and glass products	1	105	2	334	5,859
Glass			1	229	4,809
Other	1	105	1	105	1,050
Textiles and their products	15	1,730	27	4,253	37,347
Fabrics:					
Cotton goods	2	1,142	2	1,142	13,508
Dyeing and finishing textiles			1	558	1,116
Silk and rayon goods	1	24	1	24	72
Other	1	35	1	35	245
Wearing apparel:					
Clothing, men's	1	166	2	188	2,346
Clothing, women's	4	107	9	658	4,453
Men's furnishings	2	45	2	45	199
Hats, caps, and millinery			3	1,327	13,615
Hosiery	2	136	2	136	360
Knitgoods	2	75	3	113	974
Other			1	27	459
Leather and its manufactures	7	824	10	1,954	25,714
Boots and shoes	4	420	4	420	2,740
Leather	1	24	1	24	24
Other leather goods	2	380	5	1,510	22,950
Food and kindred products	8	266	13	514	6,297
Baking	3	62	5	194	2,497
Beverages	1	25	2	32	377
Canning and preserving	1	17	1	17	17
Confectionery	1	34	1	34	306
Slaughtering and meat packing	1	102	3	211	3,022
Other	1	26	1	26	78
Tobacco manufactures	1	57	2	82	924
Cigars	1	57	2	82	924
Paper and Printing	9	587	15	922	9,302
Boxes, paper	1	6	3	239	3,189
Paper and pulp			1	81	2,106
Printing and publishing:					
Book and job	2	38	4	51	842
Newspapers and periodicals	1	10	2	18	388
Other	5	533	5	533	2,777
Chemicals and allied products	3	850	3	850	6,250
Druggists' preparations	1	100	1	100	700
Other	2	750	2	750	5,550
Rubber products	3	145	3	145	605
Other rubber goods	3	145	3	145	605
Miscellaneous manufacturing	3	229	5	479	5,774
Furriers and fur factories			1	226	4,746
Other	3	229	4	253	1,028
Extraction of minerals	4	3,181	6	3,646	17,806
Coal mining, anthracite	2	2,635	2	2,635	10,746
Coal mining, bituminous	2	546	3	971	6,060
Metalliferous mining			1	40	800

TABLE 1.—*Strikes in March 1940, by Industry—Continued*

Industry	Beginning in March		In progress during March		Man-days idle during March
	Number	Workers involved	Number	Workers involved	
Transportation and communication	11	640	17	5,308	52,997
Water transportation.....	5	118	10	4,772	48,122
Motortruck transportation.....	4	469	4	469	4,248
Motorbus transportation.....	1	36	1	36	144
Taxicabs and miscellaneous.....			1	14	364
Radio broadcasting and transmitting.....	1	17	1	17	119
Trade	13	276	25	781	5,055
Wholesale.....	5	128	10	497	1,214
Retail.....	8	148	15	284	3,841
Domestic and personal service	14	1,342	21	1,782	20,626
Hotels, restaurants, and boarding houses.....	6	587	11	750	8,163
Laundries.....	5	565	6	690	9,053
Dyeing, cleaning, and pressing.....	1	80	2	232	3,216
Elevator and maintenance workers (when not attached to specific industry).....	1	103	1	103	103
Other.....	1	7	1	7	91
Professional service	2	65	5	149	1,673
Recreation and amusement.....	1	30	2	52	502
Professional.....			1	31	155
Semiprofessional, attendants, and helpers.....	1	35	2	66	1,016
Building and construction	12	1,093	15	1,237	11,257
Buildings, exclusive of P. W. A.....	7	523	9	542	4,157
All other construction (Bridges, Docks, etc., and P. W. A. buildings).....	5	570	6	695	7,100
Agriculture and fishing	1	848	4	2,008	29,382
Fishing.....	1	848	4	2,008	29,382
Other nonmanufacturing industries	1	72	3	286	5,100

Of the 131 strikes beginning in March 1940, 29 were in New York, 19 were in Pennsylvania, and 13 were in California. The strikes in these three States amounted to 47 percent of the total for all States. The greatest numbers of workers involved were in Pennsylvania (5,539), Indiana (2,838), New York (2,272), and Massachusetts (1,912). The largest numbers of man-days of idleness during the month were in Massachusetts (50,911), Pennsylvania (45,180), and New York (44,199). Three of the strikes beginning in March extended across State lines. The largest of these was a strike in four cooperage plants in Oregon and Washington which began on March 5 and was still in effect at the end of March. (See table 2.)

In the 131 strikes beginning in March there was an average of 158 workers involved. About 65 percent of the strikes involved fewer than 100 workers each, 32 percent involved between 100 and 1,000 workers each, and 3 percent involved 1,000 or more workers. There were no strikes beginning in March in which as many as 5,000 workers were involved. (See table 3.)

Union-organization matters were the major issues in about half of the strikes beginning in March. About 31 percent of the total workers involved were included in these strikes. In 29 percent of the strikes, including about one-third of the total workers, wages and hours were the principal issues, demands for wage increases being most numerous. About 21 percent of the strikes were due to miscellaneous causes, including rival-union and factional disputes, sympathy strikes, and disputes over specific working conditions and grievances such as delayed pay, unequal division of work, etc. (See table 4.)

TABLE 2.—*Strikes in March 1940, by States*

State	Beginning in March		In progress during March		Man-days idle during March
	Number	Workers involved	Number	Workers involved	
All States.....	131	20,705	223	40,415	365,138
Arkansas.....	3	140	3	140	1,201
California.....	13	604	22	1,160	10,753
Connecticut.....	1	115	1	115	345
District of Columbia.....	1	30	2	37	259
Georgia.....	1	36	2	195	3,483
Illinois.....	3	148	8	2,135	27,699
Indiana.....	5	2,838	7	3,095	22,853
Iowa.....			1	22	22
Louisiana.....	2	91	2	91	633
Maine.....	2	20	2	20	173
Maryland.....	1	166	1	166	2,324
Massachusetts.....	8	1,912	13	3,879	50,911
Michigan.....	3	347	6	446	3,915
Minnesota.....			3	258	3,105
Mississippi.....	2	881	2	881	4,288
Missouri.....	7	402	10	1,044	10,474
New Jersey.....	8	919	9	1,020	5,202
New York.....	29	2,272	60	4,233	44,199
North Carolina.....	2	793	2	793	9,055
Ohio.....	3	62	5	127	1,133
Oregon.....	2	491	2	491	5,762
Pennsylvania.....	19	5,539	29	9,207	45,180
Rhode Island.....	2	130	2	130	643
South Carolina.....	1	300	1	300	1,500
Tennessee.....			1	12	252
Texas.....	2	43	7	881	7,705
Virginia.....	3	771	4	1,771	26,592
Washington.....	1	102	3	237	1,090
West Virginia.....	3	125	4	354	6,618
Wisconsin.....	1	80	2	105	1,005
Interstate.....	3	1,348	7	7,070	66,764

TABLE 3.—*Strikes Beginning in March 1940, Classified by Number of Workers Involved*

Industry group	Total	Number of strikes in which the number of workers involved was—				
		6 and under 20	20 and under 100	100 and under 500	500 and under 1,000	1,000 and under 5,000
All industries.....	131	29	56	37	5	4
<i>Manufacturing</i>						
Iron and steel and their products, not including machinery.....	6		1	3		2
Machinery, not including transportation equipment.....	3	1		2		
Transportation equipment.....	1				1	
Nonferrous metals and their products.....	2			2		
Lumber and allied products.....	11	1	3	5	1	1
Stone, clay, and glass products.....	1			1		
Textiles and their products.....	15	3	8	3	1	
Leather and its manufactures.....	7		3	4		
Food and kindred products.....	8	2	5	1		
Tobacco manufactures.....	1		1			
Paper and printing.....	9	3	5	1		
Chemicals and allied products.....	3			2	1	
Rubber products.....	3	1	1	1		
Miscellaneous manufacturing.....	3		1	2		
<i>Nonmanufacturing</i>						
Extraction of minerals.....	4		1	2		1
Transportation and communication.....	11	4	6	1		
Trade.....	13	8	5			
Domestic and personal service.....	14	4	6	4		
Professional service.....	2		2			
Building and construction.....	12	2	7	3		
Agriculture and fishing.....	1				1	
Other nonmanufacturing industries.....	1		1			

TABLE 4.—Major Issues Involved in Strikes Beginning in March 1940

Major issue	Strikes		Workers involved	
	Number	Percent of total	Number	Percent of total
All issues.....	131	100.0	20,705	100.0
Wages and hours.....	38	29.0	8,972	33.7
Wage increase.....	30	22.9	6,237	30.1
Wage decrease.....	6	4.6	676	3.3
Wage increase, hour decrease.....	2	1.5	59	.3
Union organization.....	65	49.6	6,401	30.9
Recognition.....	17	13.0	2,410	11.6
Recognition and wages.....	20	15.2	1,256	6.1
Recognition, wages, and hours.....	10	7.6	295	1.4
Closed or union shop.....	11	8.4	941	4.5
Discrimination.....	6	4.6	1,384	6.7
Other.....	1	.8	115	.6
Miscellaneous.....	28	21.4	7,332	35.4
Sympathy.....	3	2.3	50	.2
Rival unions or factions.....	5	3.8	2,949	14.2
Other.....	19	14.5	4,312	20.9
Not reported.....	1	.8	21	.1

About 62 percent (138) of the 223 strikes in progress during March were terminated during the month, the average duration being 23 calendar days. Approximately 33 percent of them ended less than a week after they began, about 51 percent lasted from a week up to a month, and 16 percent lasted for a month or more. In the latter group there were 9 strikes which had been in progress 3 months or more. All of these were small strikes, none of them involving as many as 300 workers.

TABLE 5.—Duration of Strikes Ending in March 1940

Industry group	Total	Number of strikes with duration of—					
		Less than 1 week	1 week and less than 1½ month	½ and less than 1 month	1 and less than 2 months	2 and less than 3 months	3 months or more
All industries.....	138	45	41	30	11	2	9
<i>Manufacturing</i>							
Iron and steel and their products, not including machinery.....	6	1	4	1			
Machinery, not including transportation equipment.....	7			2	1		4
Transportation equipment.....	4	1		1	2		
Nonferrous metals and their products.....	1		1				
Lumber and allied products.....	12	4	2	4			2
Stone, clay, and glass products.....	1		1				
Textiles and their products.....	19	5	8	4	2		
Leather and its manufactures.....	7	4	2	1			
Food and kindred products.....	8	3	3	1	1		
Paper and printing.....	4		2	1	1		
Chemicals and allied products.....	2	1	1				
Rubber products.....	3	2		1			
Miscellaneous manufacturing.....	4	2	2				
<i>Nonmanufacturing</i>							
Extraction of minerals.....	2	1					1
Transportation and communication.....	14	6	4	2		1	1
Trade.....	18	7	4	5	2		
Domestic and personal service.....	13	4	4	4			1
Professional service.....	3	1		1	1		
Building and construction.....	8	3	3	1	1		
Agriculture and fishing.....	2			1		1	

Government officials or boards assisted in the settlement of slightly more than half (52 percent) of the strikes ending in March. These strikes included 64 percent of the total workers involved. About 28 percent of the strikes, including 17 percent of the workers, were settled by negotiations directly between the employers and representatives of organized workers. In about 17 percent of the strikes, covering an equal proportion of the total workers involved, no formal settlement was reached. Most of these strikes were terminated when the employees returned to work without settlement of the disputed issues, or they lost their jobs entirely when the employers hired new workers, moved, or went out of business.

TABLE 6.—*Methods of Negotiating Settlements of Strikes Ending in March 1940*

Negotiations toward settlements carried on by—	Strikes		Workers involved	
	Number	Percent of total	Number	Percent of total
Total.....	138	100.0	27,115	100.0
Employers and workers directly.....	2	1.4	85	.3
Employers and representatives of organized workers directly.....	38	27.5	4,673	17.2
Government officials or boards.....	71	51.5	17,379	64.2
Private conciliators or arbitrators.....	4	2.9	280	1.0
Terminated without formal settlement.....	23	16.7	4,698	17.3

About 42 percent of the strikes, including 24 percent of the workers involved, resulted in substantial gains to the workers. In 34 percent of the strikes, including 43 percent of the workers, compromise settlements were reached. About 15 percent of the strikes including 9 percent of the workers resulted in little or no gains to the workers.

TABLE 7.—*Results of Strikes Ending in March 1940*

Result	Strikes		Workers involved	
	Number	Percent of total	Number	Percent of total
Total.....	138	100	27,115	100.0
Substantial gains to workers.....	59	42.8	6,557	24.2
Partial gains or compromises.....	47	34.1	11,704	43.1
Little or no gains to workers.....	21	15.2	2,529	9.3
Jurisdiction, rival union, or faction settlements.....	6	4.3	3,408	12.6
Indeterminate.....	4	2.9	2,896	10.7
Not reported.....	1	.7	21	.1

Of the 138 strikes ending in March, about 30 percent were principally over wages and hours and 52 percent were over union-organization matters. In the latter group the workers substantially won their demands in about 53 percent of the strikes, obtained compromise settlements in 24 percent, and gained little or nothing in 22 percent. Of the wage and hour strikes, 39 percent were sub-

stantially won by the workers, 51 percent were compromised, and in about 10 percent little or nothing was gained.

Of the workers involved in the strikes over wages and hours, 15 percent won substantially all that was demanded, about 81 percent obtained compromise settlements, and 4 percent gained little or nothing. In the union-organization strikes, 38 percent of the workers won their demands, about 24 percent obtained compromise settlements, 13 percent gained little or nothing, and the results, insofar as 25 percent of the workers were concerned, were indeterminate.

TABLE 8.—Results of Strikes Ending in March 1940, in Relation to Major Issues Involved

Major issue	Total	Strikes resulting in -					
		Substan- tial gains to workers	Partial gains or compromises	Little or no gains to workers	Jurisdic- tion, rival union or faction settle- ments	Inde- ter- minate	Not re- ported
Number of strikes							
All issues	138	59	47	21	6	4	1
Wages and hours	41	16	21	4			
Wage increase	28	13	13	2			
Wage decrease	9	3	5	1			
Wage increase, hour decrease	3		2	1			
Hour decrease	1		1				
Union organization	72	38	17	16		1	
Recognition	16	9		7			
Recognition and wages	20	9	8	3			
Recognition, wages and hours	13	8	4	1			
Closed or union shop	16	9	3	4			
Discrimination	5	3	1	1			
Strengthening bargaining position	1					1	
Other	1		1				
Miscellaneous	25	5	9	1	6	3	1
Sympathy	2					2	
Rival unions or factions	5				5		
Jurisdiction	1				1		
Other	16	5	9	1		1	
Not reported	1						1
Number of workers involved							
All issues	27, 115	6, 557	11, 704	2, 529	3, 408	2, 896	21
Wages and hours	10, 112	1, 485	8, 154	473			
Wage increase	8, 773	1, 398	6, 972	403			
Wage decrease	829	87	681	61			
Wage increase, hour decrease	490		481	9			
Hour decrease	20		20				
Union organization	10, 636	4, 035	2, 510	1, 377		2, 714	
Recognition	1, 647	1, 050		597			
Recognition and wages	2, 698	1, 025	1, 593	80			
Recognition, wages and hours	682	150	498	34			
Closed or union shop	1, 593	687	274	632			
Discrimination	1, 187	1, 123	30	34			
Strengthening bargaining position	2, 714					2, 714	
Other	115		115				
Miscellaneous	6, 367	1, 037	1, 040	679	3, 408	182	21
Sympathy	32					32	
Rival unions or factions	3, 401				3, 401		
Jurisdiction	7				7		
Other	2, 906	1, 037	1, 040	679		150	
Not reported	21						21

ACTIVITIES OF THE UNITED STATES CONCILIATION SERVICE, MAY 1940

THE United States Conciliation Service, in May, disposed of 412 situations involving 92,411 workers. The services of this agency were requested by the employees, employers, and other interested parties.

Of these situations, 268 were strikes, threatened strikes, lock-outs, and controversies, involving 79,050 workers. The remaining situations, involving 13,361 workers, were services rendered, such as filling requests for information, adjusting complaints, consulting with labor and management, etc.

The facilities of the Service were used in 26 major industrial fields, such as building trades and the manufacture of foods, iron and steel, textiles, etc. (table 1), and were utilized by employees and employers in 37 States, Alaska, and the District of Columbia (table 2).

TABLE 1.—Situations Disposed of by U. S. Conciliation Service, May 1940, by Industries

Industry	Disputes		Other situations		Total	
	Num- ber	Workers involved	Num- ber	Workers involved	Num- ber	Workers involved
All industries.....	268	79,050	144	13,361	412	92,411
Automobile.....	5	514	4	3,014	9	3,528
Building trades.....	21	13,762	11	70	32	13,832
Chemicals.....	9	1,689	2	1,151	11	2,840
Communications.....			2	31	2	31
Domestic and personal.....	22	1,928	4	4	26	1,932
Food.....	36	15,124	7	402	43	15,526
Iron and steel.....	23	11,076	8	217	31	11,293
Leather.....	4	544	1	1	5	545
Lumber.....	18	4,071	5	719	23	4,790
Machinery.....	20	5,195	8	174	28	5,369
Maritime.....	10	7,830	1	500	11	8,330
Mining.....	5	2,107	2	2	7	2,109
Motion picture.....	1	7	2	2	3	9
Nonferrous metals.....	7	640	1	510	8	1,150
Paper.....	7	1,213	3	554	10	1,767
Petroleum.....	1	500	3	33	4	533
Printing.....	2	48			2	48
Professional.....	2	280	2	45	4	325
Rubber.....	2	505			2	505
Stone, clay and glass.....	15	2,483	6	99	21	2,582
Textile.....	17	2,127	7	385	24	2,512
Tobacco.....	1	37			1	37
Transportation equipment.....	6	5,044	2	72	8	5,116
Transportation.....	14	1,661	11	110	25	1,771
Trade.....	11	320	12	177	23	497
Utilities.....	1	45			1	45
Unclassified.....	8	300	40	5,089	48	5,389

TABLE 2.—Situations Disposed of by U. S. Conciliation Service, May 1940, by States

States	Disputes		Other situations		Totals	
	Num- ber	Workers involved	Num- ber	Workers involved	Num- ber	Workers involved
All States.....	268	79,050	144	13,361	412	92,411
Alabama.....	4	380	4	602	8	982
Alaska.....	2	42			2	42
Arkansas.....	2	870	5	607	7	1,477
California.....	20	12,126	4	73	24	12,199
Connecticut.....	5	1,402			5	1,402
Colorado.....	1	420			1	420
District of Columbia.....	16	1,694	11	140	27	1,834
Florida.....	7	1,052	5	157	12	1,209
Georgia.....	3	323	1	12	4	335
Illinois.....	15	5,315	6	2,041	21	7,356
Indiana.....	11	4,838	4	51	15	4,889
Iowa.....	9	2,254	6	12	15	2,266
Kansas.....	2	2,011	1	1	3	2,012
Kentucky.....	4	1,179	3	302	7	1,481
Louisiana.....	7	5,395	3	697	10	6,092
Maryland.....	1	319	2	301	3	620
Massachusetts.....	4	401	5	1,566	9	1,967
Michigan.....	3	4,028	1	1	4	4,029
Mississippi.....	1	32	1	1	2	33
Minnesota.....	7	687	2	3	9	690
Missouri.....	13	1,919	5	231	18	2,150
New York.....	19	1,523	18	112	37	1,635
Nebraska.....	1	1,350			1	1,350
New Jersey.....	8	4,386	5	200	13	4,586
North Carolina.....	5	965	4	53	9	1,018
North Dakota.....	1	50			1	50
Ohio.....	26	10,160	17	3,765	43	13,925
Oklahoma.....	1	34	1	510	2	544
Pennsylvania.....	28	7,760	9	299	37	8,059
Rhode Island.....	1	20			1	20
South Carolina.....	1	400	2	2	3	402
Tennessee.....	5	725	1	3	6	728
Texas.....	5	773	7	1,255	12	2,028
Utah.....	4	83	3	120	7	203
Virginia.....	6	1,640	2	57	8	1,697
Washington.....	11	1,754	4	16	15	1,770
West Virginia.....	2	220	1	1	3	221
Wisconsin.....	6	427	1	170	7	597
Wyoming.....	1	93			1	93

Minimum Wages and Maximum Hours

WAGES IN THE HAT INDUSTRY UNDER WAGE AND HOUR LAW ¹

MINIMUM hourly wages of 30 to 40 cents an hour were established for the hat industry by an order of the Administrator of the wage and hour law, effective July 1, 1940. It is estimated that the hourly wage rates of some 5,500 workers engaged in interstate commerce or the production of goods for interstate commerce were raised under the terms of this order. Minimum wages in nine industries have now been established by administrative order.²

The hat industry is carried on primarily in Danbury (Conn.), Philadelphia, New York, and northern New Jersey. It employs about 25,000 workers and consists of 5 separate and distinct divisions, according to the findings and opinion of the Administrator. These are: (1) The processing of hatter's furs; (2) the manufacture of fur-felt hats and hat bodies; (3) the manufacture of wool-felt hats and hat bodies; (4) the manufacture of silk and opera hats; and (5) the manufacture of straw and harvest hats.

Hourly wages of not less than 40 cents were fixed for the hatters' furs, the fur-felt hat and hat body, the wool-felt hat and hat body, and the silk and opera hat divisions of the hat industry. A 35-cent minimum was established for the straw and harvest hat division, except in Puerto Rico for which the minimum was specified to be 30 cents an hour.

RECORD-KEEPING REGULATIONS UNDER WAGE AND HOUR LAW

THE regulations of the Wage and Hour Division relating to record keeping by employers under the Fair Labor Standards Act were amended by an order issued on June 4, 1940, to lessen the burden on employers of maintaining two records for each employee at all times.³ According to the terms of the previous regulations,⁴ employers were

¹ U. S. Department of Labor. Wage and Hour Division. Press release Nos. 778 and 781.

² For earlier orders see Monthly Labor Review for October and December 1939 and February, May, and June 1940.

³ U. S. Department of Labor, Wage and Hour Division, Press release No. 833; and National Archives of the United States, Federal Register, June 4, 1940.

⁴ See Monthly Labor Review, April 1940 (p. 947).

required to keep records showing the age, hours worked, wages paid, etc., for each employee at a central record-keeping office as well as an abbreviated statement at the place of employment. The abbreviated record is dispensed with under the new regulations, on condition that the required records are produced at the place of employment, in every instance, within 72 hours following notice from an inspector acting under the wage and hour law.

In making this modification, the Administrator's policy is being followed of easing technical requirements whenever possible without jeopardizing the rights of the employees involved or unreasonably increasing or delaying the work of the inspectors and field force engaged in administering the legislation. State laws on record keeping are not affected by these regulations.

MINIMUM WAGE RATES FOR BRAZIL, 1940¹

MINIMUM wage rates, effective for 3 years, for adult workers in Brazil, without distinction of sex, vary from 3.600 to 9.600 milreis² per day, according to locality, under a decree-law of May 1940. Minors under 18 years of age are to be paid half the adults' rates and specified increases are to be allowed to persons engaged in operations considered to be unhealthful. This legislation constitutes an extension of the provisions of the decree-law of January 14, 1936, which was regulated by one dated April 30, 1938.³

The wage is stated to be "capable of satisfying, under present conditions and in sections of the country specified in the annexed table, the normal needs of food, shelter, clothing, sanitation, and transportation." The rates established may be modified or extended for successive periods of 3 years each; but if, during a 3-year period, circumstances arise which, in the opinion of three-fourths of the members of the commission, materially affect living conditions, the wage may be revised. The present rates go into effect 60 days after May 4, 1940, the date of publication in the *Diario Oficial*.

Payment of remuneration shall not be stipulated for any period in excess of a month. Payments stipulated by the month shall be made not later than the tenth working day of the month following the month covered, and payments stipulated by the fortnight or week, by the fifth working day following the day on which due. In case of bankruptcy, salary or wage claims shall be given preference. For workers engaged in operations considered unhealthful, minimum wage rates for adult workers in force in the localities concerned shall be increased

¹ *Diario Oficial*, Rio de Janeiro, May 4, 1940.

² Average official exchange rate of milreis (1,000 reis), April 1940=6.06 cents.

³ See *Monthly Labor Review*, Washington, July 1936; and *Boletim do Ministerio do Trabalho, Indústria, e Comércio*, Rio de Janeiro, June 1938.

by 40, 20, and 10 percent, respectively, in payment for work involving maximum, medium, or minimum extra risk. Fines are prescribed for violation of this legislation, which are doubled in case of repetition of offense.

The Ministry of Labor, Industry, and Commerce is to issue instructions necessary for the execution of this legislation, but may transfer this function to any of the divisions of the Ministry or to the inspectors of the Retirement and Pension Institutes; however, the Minister shall be final authority in the settlement of questions arising in connection with such execution.

Minimum wage rates in Brazil, by the month, day, and hour, to become effective 60 days after May 4, 1940, by States and localities, with the percentages of wage which may be allowed in kind to meet the basic needs for food, shelter, clothing, sanitation, or transportation, are presented in the following table.

Minimum Wage Rates in Brazil Under Decree-Law of May 1, 1940, and Percentage of Wages Discounted When Part Paid in Kind

State and locality	Minimum wage in cash			Percentages to be discounted for payment in kind				
	Per month (25 days)	Per day (8 hours)	Per hour	Food	Shelter	Clothing	Sanitation	Transportation
	Milreis	Milreis	Milreis	Per cent	Per cent	Per cent	Per cent	Per cent
Alagoas:								
Maceió (capital).....	125.000	5.000	0.625	55	20	8	9	8
Other regions.....	90.000	3.600	.450	60	16	11	10	3
Amazonas:								
Manaus (capital).....	160.000	6.400	.800	55	16	10	10	9
Other regions.....	120.000	4.800	.600	65	12	9	10	4
Baía:								
Salvador (capital and 7 other municipalities).....	150.000	6.000	.750	60	20	8	8	4
Other regions.....	90.000	3.600	.450	65	16	9	8	2
	120.000	4.800	.600					
Ceará:								
Fortaleza (capital).....	150.000	6.000	.750	55	20	8	10	7
Other regions.....	110.000	4.400	.550	60	16	7	12	5
Espírito Santo:								
Vitória (capital).....	160.000	6.400	.800	55	16	6	13	10
Other regions ²	110.000	4.400	.550	70	16	9	10	5
Federal District.....	240.000	9.600	1.200	50	20	8	12	10
Goiás:								
Goiânia (capital) and cities bordering on Goiás Railway.....	150.000	6.000	.750	50	18	10	14	8
Other regions.....	100.000	4.000	.500	55	16	11	14	4
Maranhão:								
São Luiz (capital).....	120.000	4.800	.600	60	16	6	10	8
Other regions.....	90.000	3.600	.450	65	14	9	10	2
Mato Grosso:								
Cuiabá (capital).....	150.000	6.000	.750	50	18	10	18	4
Aquidaua, Bela Vista, and 12 other municipalities.....	180.000	7.200	.900	55	18	11	14	2
Nioac and 13 other municipalities.....	100.000	4.000	.500	55	16	11	16	2
Minas Gerais:								
Belo Horizonte (capital) and 4 other municipalities.....	170.000	6.800	.850	55	16	6	10	13
Other regions.....	120.000	4.800	.600	60	14	9	10	7
Pará:								
Belem (capital).....	150.000	6.000	.750	55	16	6	15	8
Other regions.....	110.000	4.400	.550	60	12	7	16	5
Paraíba:								
João Pessoa (capital).....	130.000	5.200	.650	60	16	8	6	10
Other regions.....	90.000	3.600	.450	65	14	9	8	4

¹ Not more than 70 percent of total. Cash payment must amount to at least 30 percent of the total wage.

² Percentages are as shown in the report.

Minimum Wage Rates in Brazil Under Decree-Law of May 1, 1940, and Percentage of Wages Discounted When Part Paid in Kind—Continued

State and locality	Minimum wage in cash			Percentages to be discounted for payment in kind				
	Per month (25 days)	Per day (8 hours)	Per hour	Food	Shelter	Clothing	Sanitation	Transportation
Paraná:	<i>Milreis</i>	<i>Milreis</i>	<i>Milreis</i>	<i>Per-cent</i>	<i>Per-cent</i>	<i>Per-cent</i>	<i>Per-cent</i>	<i>Per-cent</i>
Curitiba (capital).....	180.000	7.200	.900	55	16	10	10	9
Other regions.....	120.000	4.800	.600	60	14	11	10	5
	160.000	6.400	.800					
Pernambuco:								
Recife (capital) and Olinda.....	150.000	6.000	.750	55	20	10	8	7
Other regions.....	100.000	4.000	.500	60	18	9	8	5
Piauí:								
Teresina (capital) and Parnaíba.....	120.000	4.800	.600	60	14	8	14	4
Other regions.....	90.000	3.600	.450	60	14	7	16	3
Rio Grande do Norte:								
Natal (capital).....	130.000	5.200	.650	55	14	6	15	10
Other regions.....	90.000	3.600	.450	60	12	9	16	3
Rio Grande do Sul:								
Porto Alegre (capital).....	200.000	8.000	1.000	50	20	8	10	12
Other regions.....	160.000	6.400	.800	55	18	11	10	6
Rio de Janeiro:								
Niterói (capital) and 2 other municipalities.....	200.000	8.000	1.000	50	20	8	12	10
Seats of other municipalities and districts.....	150.000	6.000	.750	55	14	11	10	10
Other regions.....	100.000	4.000	.500	55	16	11	10	8
Santa Catarina:								
Florianópolis (capital) and 6 other municipalities.....	170.000	6.800	.850	55	18	8	15	4
Other regions.....	140.000	5.600	.700	60	16	7	14	3
	150.000	6.000	.750					
São Paulo:								
São Paulo (capital), Santos, and 3 other municipalities.....	220.000	8.800	1.100	55	20	8	10	7
Other regions.....	150.000	6.000	.750	55	18	11	10	6
	200.000	8.000	1.000					
Sergipe:								
Aracaju (capital).....	125.000	5.000	.625	60	15	10	9	8
Other regions.....	90.000	3.600	.450	60	14	9	14	5
Territory of Acre.....	170.000	6.800	.850	55	18	10	15	2

From the table it will be seen that the highest minimum daily wage (9.600 milreis) is to be paid in the Federal District, and the lowest (3.600 milreis) in parts of Alagoas, Baía, Maranhão, Paraíba, Piauí, Rio Grande do Norte, and Sergipe. Discounts from cash wage for food vary from 50 to 70 percent of total wage, for shelter from 12 to 20 percent, for clothing from 6 to 11 percent, for sanitation from 6 percent in João Pessoa, Paraíba, to 18 percent in Cuiabá, Mato Grosso, and for transportation, from 2 percent in certain regions of three separate States and the Territory of Acre to 13 percent in Belo Horizonte and four other municipalities in Minas Gerais.

**ESTABLISHMENT OF 8-HOUR DAY IN BRAZILIAN
MERCHANT MARINE, 1939¹**

THE normal workday for all personnel on board the vessels of the Brazilian merchant marine shall be 8 hours, with compensatory leave or payment of corresponding wages for overtime, according to a decree-law of June 29, 1939. The 8-hour day has been in effect for sailors and firemen since 1915, but the present legislation extends its benefits to the steward department.

During each legal 24-hour day the seaman may be kept at his post for 8 hours, such service to be either continuous or intermittent at the discretion of the commander, but intermittent duty shall never be for less than 1 hour. Duties in connection with cabins, engines, passage-ways, watch, and any others which medical opinion considers prejudicial to the health of the seamen are to be performed in shifts of not more than, and with intervals not longer than, 4 hours.

All time over 8 hours of effective service shall be considered overtime and entitled to compensation with the corresponding wage, or with compensatory leave on the next day or subsequent days during normal working days or at the end of the trip. Any fraction of an hour of overtime shall be considered an hour. Overtime performed in connection with entering and leaving ports shall not exceed 30 hours per week. The following duties are not considered as overtime: Those which involve responsibility which cannot be delegated; those which arise in the imminence of danger (at the sole discretion of the responsible officer); those requiring the presence of all members of the crew; and specified work in certain emergencies in river and lake navigation related to effective service of the vessel. Work done on Sundays and holidays shall be considered overtime, except cabin service and watch, operation of engines and apparatus on board, cleanliness and hygiene of the vessel, preparation of food for crew and passengers, personal service for the passengers, and assistance rendered in case of danger to the vessel or to the passengers.

On each vessel a book shall be kept for recording the overtime of each seaman, and another for recording, duly witnessed, the transgressions of the crew. Any member of the crew who considers himself abused by an order of a superior officer may submit his case to the Maritime Court through the commander, who shall transmit it within 5 days after receiving it, with appropriate information.

Wages and salaries are not to be reduced because of this legislation. Fines are prescribed for noncompliance and doubled in case of repetition of an offense. Regulations and instructions for carrying out this legislation were to be issued through the Ministry of Marine and the Ministry of Labor, Industry, and Commerce, within 60 days after July 7, 1939, the date of publication in the *Diario Oficial*.

¹ Data are from report of William C. Burdett, counselor of American Embassy at Rio de Janeiro.

MINIMUM WAGE FOR CHILEAN TEXTILE INDUSTRY, 1940¹

THE minimum daily wage in the textile industry in Chile, effective from January 1, 1940, was fixed at 11.50 pesos² in the Provinces and 12.50 pesos in Santiago, by an official circular of January 10, 1940, after agreement by representatives of employers and workers in the textile industry. These rates are to serve as the basis for minimum-wage fixing by the mixed wage commissions in the various departments where textile mills are found. For apprentices and workers under 18 years of age, the minimum wage shall be 70 percent of that fixed for the region.

The departmental textile mixed wage commissions are to fix the period of duration of any wage agreement they may reach, which cannot exceed 1 year. Because of lack of agreement between the parties on the length of apprenticeship (the employers' representatives suggesting a maximum of 6 months and those of the workers 2 months), this matter is also left for decision by the departmental commissions.

The workers' representatives agreed to the employers' suggestion that any housing benefits already operative, or other benefits paid or evaluated in cash (except the family allowances which the enterprises have been paying for some time), are to form part of this rate.



MINIMUM WAGE LAW OF THE DOMINICAN REPUBLIC, 1940³

THE Executive of the Dominican Republic is authorized to issue decrees, regulations, and instructions necessary to insure to the working classes in agriculture and industry a wage compatible with the cost of living, according to a law of April 19, 1940. The law provides for appointment by the Executive of a National Committee for the Regulation of Wages (*Comité Nacional para Regular los Salarios*), which will recommend to him, when it deems such action necessary, minimum wage rates for every kind of agricultural and industrial work performed in the Republic, and the form in which the wages are to be paid, taking into consideration (1) the kind of work, and the conditions, time, and place in which it is done; (2) the current price of the article produced; and (3) the average cost of living to the worker.

The committee is to be composed of two government officials (representing the Secretariat of Agriculture, Industry, and Labor, and the

¹ *Revista del Trabajo*, Santiago, February 1940. See also Bulletin of the Pan American Union, Washington, June 1938: Minimum Wage Legislation in Latin America.

² Official exchange rate of the Chilean peso in January 1940=5.17 cents.

³ *Gaceta Oficial*, Ciudad Trujillo, April 23, 1940.

Secretariat of Treasury and Commerce, respectively), one agriculturist, one industrialist, and one merchant, as permanent members; and in addition two members of the chamber of commerce, or their representatives, from the region interested in the wage scale under consideration, as temporary members but having voice and vote. The Executive shall choose from the permanent members a person to preside, and shall also designate a secretary without voice or vote.

The decisions reached by the committee shall be carried out only after decree by the Executive. Fines are prescribed for violation of the legislation affecting the minimum wage, and of the wage rates established. Collection of fines is entrusted to the mayors of the communes within which the industries concerned are established or the work is done. Certain authorities are designated to enforce the minimum-wage legislation.

Wages and Hours of Labor

EARNINGS AND HOURS IN THE CARPET AND RUG INDUSTRY ¹

Summary

AVERAGE hourly earnings in November and December 1939 of employees in the carpet and rug industry amounted to 65.5 cents in mills making wool carpets and rugs, 48.9 cents in establishments engaged primarily in the manufacture of paper-fiber and grass rugs, and 42.6 cents in cotton carpet and rug mills.

These figures were revealed in a survey recently completed by the Bureau of Labor Statistics. Considerable variation was found among the three branches of the industry in the distribution of hourly earnings received by individual employees. Only 3.6 percent of the workers in wool carpet and rug mills averaged under 40 cents an hour. This proportion amounted to 18.9 percent of the labor force in the small group of plants making paper-fiber and grass carpets and rugs. In striking contrast, the proportion of workers averaging under 40 cents amounted to 63.0 percent of the total covered in the cotton carpet and rug mills. One-fifth of the employees in this branch were receiving exactly 30 cents an hour, which is the basic minimum provided by the Fair Labor Standards Act.

Definition of Industry

The survey of wages and hours in the carpet and rug industry included the manufacture of wool carpets and rugs, woolen and worsted carpet yarns, paper-fiber and grass rugs, and carpets and rugs made of cotton yarns.

Of these four product groups, the first three are defined by the United States Census of Manufactures as follows:

Carpets and rugs, wool (other than rag).—Carpets and rugs made chiefly of wool and usually with a jute, cotton, or linen back.

Carpet yarn, wool and worsted.—Woolen and worsted yarn made for sale or on commission.

Carpets and rugs, paper-fiber and grass.—Door mats, floor mattings, art squares, rugs, and carpets made from such materials as twisted paper, wire grass, reeds, and coir (cocoa fiber).

¹ Prepared by H. E. Riley, assisted by Edyth M. Bunn, of the Bureau's Division of Wage and Hour Statistics.

The fourth group of establishments surveyed included plants making cotton woven and braided rugs. These items are classed by the Census of Manufactures as products of the cotton-manufacturing industry. The survey did not include rag carpets and rugs. Bath mats were likewise excluded from the survey, but several of the cotton-rug manufacturers scheduled also make these products.

According to the Census of Manufactures for 1937 (covering plants having an annual product valued at \$5,000 or more), the wool carpet and rug industry embraced 55 establishments employing on the average 30,779 wage earners during the year. There were 15 independent carpet yarn-spinning plants, with an average employment of 2,548 workers, and 9 paper-fiber and grass carpet and rug mills employing 788 wage earners. The Census of Manufactures does not present separate figures on number of plants and employees for cotton carpets and rugs. The analysis of products in the cotton-goods industry, however, shows that the annual output in 1937 was valued at \$477,076 for cotton braided rugs and \$1,969,335 for cotton woven rugs. These figures do not include cotton bath mats.

Methods of Collecting and Analyzing Data

The earnings and hours data presented in this report are based on transcriptions of company pay-roll records, which were made by the Bureau's field representatives. The information obtained in each plant included the actual hours worked and total wages received by each employee (except higher supervisory and office workers) for a selected pay-roll period.² In scheduling the data, the employee's earnings at regular rates of pay were separated from any payments at extra rates received for overtime work. The hourly and weekly earnings shown in this report are based on regular rates only. This is contrary to the usual Bureau practice, but was necessitated by the fact that the data are to be used by the Wage and Hour Division in connection with minimum-wage recommendations. As a subsequent analysis shows, however, the exclusion of extra earnings due to overtime has reduced the averages only to a very slight extent.

For each employee scheduled, the Bureau also obtained the occupational designation, sex, color, and method of wage payment. Descriptions of occupations were also obtained from plant officials, together with an estimate of the degree of skill required in each operation. This information supplied a basis for the occupational and skill classifications shown in the report.³

² If the pay-roll period exceeded 1 week, the schedule also showed the number of hours worked during 1 continuous week within the pay-roll period. With this information, the Bureau was able to present weekly hours, as well as to compute weekly earnings, for all employees.

³ Because of its small size, no occupational data are presented for the paper-fiber and grass carpet and rug branch.

The data obtained from a majority of the mills cover a pay period in November or December 1939. The monthly indexes of employment in the wool carpet and rug plants compiled by the Bureau's Division of Employment Statistics indicate that this was a period of considerable activity in that branch of the industry.⁴

The coverage includes a selected sample of wool carpet and rug, wool carpet yarn, and cotton carpet and rug establishments, and all of the paper-fiber and grass rug mills that could be located at the time the field work was done.

In choosing the wool carpet and yarn plants to be scheduled, consideration was given to the principal factors that might have some influence on the industry's wage structure. Among these factors were geographical location, size of plant, size of community, type of product, and unionization. The sample was not equally distributed, however, with respect to each of these characteristics. For example, the coverage included virtually all of the establishments in the Southern and Midwestern States. On the other hand, a carefully selected portion of the plants was taken in other areas, in which a substantial number of establishments having similar characteristics were located. In some of the larger plants, the schedules covered only a portion of the workers. The sample in these establishments was selected to contain a proportional representation of each occupational group. The schedules obtained for each homogeneous group of plants were then weighted upwards in such a way that the total number of employees represented would be approximately equal to the total employment in all mills in the group, including both the sample establishments and those excluded from the coverage. In this manner, the representation of each group of plants, or "cell", was brought into proper perspective. The estimated total employment in the wool branch at the time of the survey (November and December 1939), derived from the Bureau's weighted coverage, was 28,191 workers in carpet- and rug-weaving plants and 2,367 in the independent carpet yarn mills. The Bureau's monthly index of employment indicates that the number of workers in the wool carpet and rug industry declined about 7 percent between 1937 and December 1939. If the 1937 figures of the Census of Manufactures are adjusted in accordance with this reduction in employment, the December 1939 figure would show a total of 28,600 employees in weaving and 2,400 employees in independent yarn mills. It will be observed that these estimates agree closely with the Bureau's weighted totals.

The coverage in the paper-fiber and grass rug branch included 6 plants with 590 wage earners. According to the Census of Manufactures, there were 828 wage earners in this branch during the same month (November) in 1937.

⁴ No employment indexes are available for the paper-fiber and grass and cotton carpet and rug branches.

According to the best available information, the cotton carpet and rug branch includes 34 establishments with a total employment ranging from 1,000 to 1,500 wage earners. The survey covered 17 plants with 789 workers. The coverage included 5 plants in Pennsylvania and 3 in New York. The remaining establishments scheduled were located in the States of California, Georgia, Illinois, Massachusetts, North Carolina, and Rhode Island. The only States reported as having some cotton-rug manufacturing, not represented in the survey, were Delaware, which has one small plant, and Tennessee, with two establishments, both of which also made bath mats and bedspreads.

WOOL CARPETS AND RUGS AND CARPET YARNS

Description of Industry

The bulk of the United States wool carpet and rug output is produced by plants that perform both the yarn processing and weaving operations. There are several mills, however, that have no spinning departments, but buy their yarns from the independent carpet yarn-spinning establishments. In addition, a few plants utilize reworked fibers obtained from old carpets and rugs, although these materials may be supplemented with new yarns.

The products of the industry include several types of carpets and rugs, differing chiefly in the method of weaving employed. Most important among these varieties are the Wiltons, Brussels,⁵ velvets, tapestries, Axminsters, chenilles, and punched felts. In general, the Wiltons, Brussels, and Chenilles are highest in quality, while the bulk of the Axminsters and punched felts are inexpensive grades. Within each type, the quality of the product may vary widely, however, depending upon the construction and the quality and amount of yarn used.

The industry is largely confined to a few States in the eastern part of the country. According to the report of the Census of Manufactures for 1937, New York was the leading State, with half (50.1 percent) of the employees in the industry. Pennsylvania was next in importance, with 17.3 percent of the total wage earners, followed by New Jersey and Massachusetts with 10.2 percent and 5.6 percent, respectively. The remaining workers were employed in scattered plants located in other States. These plants included one mill each in Connecticut, Delaware, Illinois, Maine, Minnesota, New Hampshire, North Carolina, and Virginia, and two in Michigan. Some of these establishments could not be located at the time of the survey.

⁵ The Bureau has no specific reports of Brussels rug production in any of the plants scheduled. It is quite likely, however, that some of the establishments reporting Wilton production were also making Brussels, as both types are produced with the same equipment.

indicating, no doubt, that they had gone out of business or moved since 1937.

The Census report shows that the manufacture of woolen and worsted carpet yarn in independent yarn mills was confined entirely to Pennsylvania in 1937. At the time of the survey, however, the Bureau found two independent yarn mills located in the States of Massachusetts and New Jersey.

Although a majority of both wool carpet and rug weaving mills and independent yarn establishments are relatively small in size, the bulk of the employment is in large plants. The report of the Census of Manufactures showed that, of the 55 wool carpet and rug weaving plants, 40 employed less than 501 wage earners in 1937. The total employment in these establishments amounted to 5,513 workers. Of the remaining 15 establishments, 9 had from 501 to 1,000 and 6 had 1,001 or more wage earners. These two groups of mills employed 6,150 and 19,117 workers, respectively. Of the 15 independent yarn-spinning establishments, 3 had under 51 wage earners, 7 had 51 to 100, 3 employed 101 to 250, one reported between 251 and 500, and one had between 1,001 and 2,500 employees.

Labor organization is extensive in the industry, although largely confined to the carpet-weaving mills. Over two-fifths of the weaving mills scheduled, employing about three-fifths of the workers covered in weaving establishments, had agreements with the Textile Workers Union of America, which was the only labor organization represented in the wool carpet and rug plants covered by the survey. On the other hand, only about a fourth of the independent yarn mills had union contracts, although these were large establishments, employing over half of the independent yarn-mill wage earners scheduled.

Composition of Labor Force

Nearly three-fourths (73.1 percent) of the employees in wool carpet and rug weaving mills, and nearly two-thirds (63.5 percent) of those in independent yarn establishments were males. (See table 1). The ratio of men to women varies considerably from plant to plant, however, depending upon the type of product, size of looms employed, and other factors. Examination of data covering the plants scheduled reveals, for example, that relatively more females are employed in Axminster than in Wilton production. Likewise, the proportion of women is greater in mills producing a large volume of narrow carpetings than in those establishments that have a preponderance of wide looms.

The proportion of workers in the several skill groups also varies according to the type of plant and the sex of the employees. Skilled wage earners constituted about one-fifth (21.8 percent) of the total in

independent yarn mills, as against two-fifths (39.8 percent) in weaving establishments. Over two-thirds (67.1 percent) of the independent yarn-mill employees were semiskilled, whereas only about two-fifths (41.6 percent) of the workers in weaving plants were in this category. The semiskilled group included virtually all of the females in the independent yarn mills and about two-thirds of those in the weaving establishments.

TABLE 1.—*Average Hourly Earnings of Wool Carpet and Rug Workers, by Type of Mill, Skill, and Sex, November and December 1939*

Type of mill	All workers			Skilled workers			Semiskilled workers			Unskilled workers		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Average hourly earnings												
All mills.....	\$0. 655	\$0. 682	\$0. 578	\$0. 817	\$0. 845	\$0. 671	\$0. 571	\$0. 582	\$0. 557	\$0. 516	\$0. 520	\$0. 466
Independent yarn mills....	. 615	. 667	. 521	. 805	. 808	(1)	. 569	. 622	. 520	. 509	. 513	(1)
Carpet and rug mills.....	. 658	. 683	. 585	. 818	. 847	. 671	. 572	. 577	. 564	. 516	. 521	. 467
Number of workers (weighted)												
All mills.....	30, 558	22, 104	8, 454	11, 716	9, 666	2, 050	13, 324	7, 382	5, 942	5, 518	5, 056	462
Independent yarn mills....	2, 367	1, 500	867	515	503	12	1, 589	747	842	263	250	13
Carpet and rug mills.....	28, 191	20, 604	7, 587	11, 201	9, 163	2, 038	11, 735	6, 635	5, 100	5, 255	4, 806	449
Percentage of workers												
All mills.....	100. 0	72. 4	27. 6	38. 4	31. 7	6. 7	43. 6	24. 2	19. 4	18. 0	16. 5	1. 5
Independent yarn mills....	100. 0	63. 5	36. 5	21. 8	21. 3	. 5	67. 1	31. 6	35. 5	11. 1	10. 6	. 5
Carpet and rug mills.....	100. 0	73. 1	26. 9	39. 8	32. 6	7. 2	41. 6	23. 5	18. 1	18. 6	17. 0	1. 6

¹ Not a sufficient number of workers to permit computation of an average.

Average Hourly Earnings

METHODS OF WAGE PAYMENT

Over half (52.6 percent) of the wage earners covered in the wool branch of the industry were paid on a straight hourly rate basis. The proportion of hourly paid workers was much higher among the males than among the females, however, amounting to 60.3 percent of the former, as compared with 31.9 percent of the latter. The use of piece-rate and production-bonus systems was especially pronounced in certain occupations, particularly in the weaving operations. Thus, virtually all Axminster, chenille, tapestry, and broad velvet weavers, and all of the setters were paid exclusively by piece work or some production-bonus method. Other occupations having a majority of workers on piece rates or production bonuses were the spinners, doffers, Wilton and narrow velvet weavers, balers and packers, reelers, winders, spoolers, beamer tenders, and burlers.

HOURLY EARNINGS OF ALL WORKERS

The earnings of all workers in the wool carpet and rug industry averaged 65.5 cents an hour in November and December 1939. (See table 1.) An examination of the distribution in table 2 reveals that the earnings of half (50.9 percent) of the workers averaged between 47.5 and 67.5 cents an hour. Over an eighth (13.3 percent) received under 47.5 cents, but only 3.6 percent averaged less than 40 cents. On the other hand, a substantial proportion of the wage earners were found in the higher wage brackets, over a third (35.8 percent) receiving 67.5 cents or more, and nearly a fourth (23.1 percent) averaging 77.5 cents or more.

VARIATIONS BY SEX AND SKILL

Among the factors accounting for the wide dispersion of hourly earnings are the differences in the level of wages for the various sex and skill groups. The male employees averaged 68.2 cents an hour, as against 57.8 cents for females. The highest average (84.5 cents) was received by the skilled males, while the unskilled females had the lowest earnings (46.6 cents). It will be observed that the difference between the earnings of males and females was considerably greater for the skilled than for the semiskilled and unskilled groups.

TABLE 2.—Percentage Distribution of Workers in All Mills, in the Wool Carpet and Rug Industry According to Average Hourly Earnings, by Sex and Skill, 1939

Average hourly earnings (in cents)	All workers			Skilled workers			Semiskilled workers			Unskilled workers		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
30.0 and under 32.5	0.6	0.5	0.7	0.1	0.2	-----	1.1	1.1	1.0	0.3	0.3	-----
32.5 and under 35.0	.6	.4	1.1	.5	.1	2.4	.5	.3	.7	1.1	1.2	-----
35.0 and under 37.5	1.0	.9	1.2	.3	.2	.7	1.1	1.1	1.1	2.1	1.8	5.4
37.5 and under 40.0	1.4	.9	2.6	.3	.1	1.1	2.1	1.4	3.0	1.9	1.7	3.2
40.0 and under 42.5	2.9	2.6	3.6	1.0	.5	3.1	2.4	2.3	2.6	8.0	6.9	19.0
42.5 and under 47.5	6.8	5.8	9.5	1.6	1.2	3.9	8.7	7.8	9.7	13.3	11.7	31.0
47.5 and under 52.5	13.7	13.6	14.1	2.6	2.7	2.3	16.7	16.6	16.8	29.9	29.9	31.3
52.5 and under 57.5	16.2	14.6	20.7	3.3	3.0	4.4	23.2	19.5	27.5	27.0	29.0	4.3
57.5 and under 62.5	11.6	9.9	16.0	7.0	5.4	14.2	16.7	16.0	17.6	9.1	9.7	2.8
62.5 and under 67.5	9.4	9.4	9.3	8.3	7.4	12.5	12.9	16.3	8.8	3.2	3.3	1.9
67.5 and under 72.5	6.9	6.7	7.6	10.1	7.9	20.1	6.6	8.8	3.8	1.3	1.3	1.1
72.5 and under 77.5	5.8	6.4	4.2	10.6	10.8	9.9	3.2	3.7	2.6	1.7	1.9	-----
77.5 and under 82.5	5.1	5.3	4.8	10.5	10.3	11.8	2.2	1.9	2.7	.6	.7	-----
82.5 and under 87.5	4.7	5.7	1.9	10.4	11.5	4.5	1.6	2.0	1.2	.1	.1	-----
87.5 and under 92.5	3.8	4.6	1.7	9.4	9.9	6.9	.4	.7	.1	.3	.3	-----
92.5 and under 100.0	2.9	3.8	.5	7.1	8.4	1.4	.4	.5	.2	.1	.2	-----
100.0 and under 110.0	2.6	3.5	.3	6.6	7.9	.6	.1	(1)	.2	(1)	(1)	-----
110.0 and under 120.0	1.9	2.5	.2	4.8	5.8	.2	.1	-----	.3	-----	-----	-----
120.0 and over	2.1	2.9	(1)	5.5	6.7	-----	(1)	-----	.1	-----	-----	-----
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of workers (weighted)	30,558	22,104	8,454	11,716	9,666	2,050	13,324	7,382	5,942	5,518	5,056	462

¹ Less than a tenth of 1 percent.

A comparison of the distributions for males and females shows that for both groups the largest concentration of hourly earnings occurs

in the 5-cent range of 52.5 and under 57.5 cents, the respective proportions being 14.6 and 20.7 percent. Only 2.7 percent of the males and 5.6 percent of the females averaged under 40 cents. Relatively few of the workers in any skill-group received less than this amount, the proportions ranging from under 1 percent for the skilled males to 8.6 percent for the unskilled females. On the other hand, 23.0 percent of the males, as against only 4.6 of the females, received 82.5 cents or more. It will be observed that most of the employees earning above this level were in skilled occupations.

VARIATIONS BY TYPE OF PLANT

Hourly earnings averaged 61.5 cents in the independent yarn mills, as compared with 65.8 cents in the carpet and rug weaving mills. As shown by table 1, hourly earnings were lower in independent yarn than in weaving mills for every skill-sex group except the semiskilled males, who averaged 62.2 cents in the former as compared with 57.7 cents in the latter establishments.

A comparison of the distributions for the two groups of plants, shown in table 3, reveals that in both cases the largest concentration of earnings occurs at 52.5 and under 57.5 cents an hour, the proportions amounting to 27.9 percent in the independent yarn mills and 15.3 percent in the weaving mills. Hourly earnings were more widely dispersed in the weaving than in the independent yarn establishments. Thus, only 5.8 percent of the workers in independent yarn mills, as against 19 percent of those in weaving plants, averaged 82.5 cents an hour or more. The proportion averaging over \$1.00 an hour amounted to 6.9 percent in weaving, as compared with 2.3 percent in independent yarn mills. Part of this difference may be attributed to the fact that the data for weaving establishments also cover the spinning departments in those plants that process their own yarns, whereas the figures for independent yarn mills include only the operations involved in yarn spinning. Perhaps the most important factor in this respect is the fact that a large majority of the independent yarn mills are located in the Philadelphia area and hence tend to have uniform wage scales. The carpet and rug weaving establishments, on the other hand, are more widely scattered and therefore are affected by geographical differences in wage rates.

TABLE 3.—Percentage Distribution of Workers According to Average Hourly Earnings, by Sex and Skill, November and December 1939

WOOL CARPET AND RUG WEAVING MILLS¹

Average hourly earnings (in cents)	All workers			Skilled workers			Semiskilled workers			Unskilled workers		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
30.0 and under 32.5	0.6	0.5	0.8	0.1	0.2	—	1.2	1.2	1.2	0.3	0.3	—
32.5 and under 35.0	.6	.4	1.2	.5	.1	2.4	.5	.3	.8	1.1	1.2	—
35.0 and under 37.5	1.0	.9	1.3	.3	.2	.7	1.2	1.2	1.2	2.0	1.7	4.7
37.5 and under 40.0	1.4	.9	2.8	.3	.1	1.1	2.4	1.6	3.5	4.7	1.6	3.3
40.0 and under 42.5	3.0	2.6	3.9	1.0	.6	3.1	2.7	2.4	2.9	7.9	6.9	18.7
42.5 and under 47.5	6.8	5.9	9.3	1.7	1.2	3.9	8.9	8.4	9.5	13.1	11.4	31.9
47.5 and under 52.5	13.8	14.2	12.5	2.7	2.8	2.3	16.7	18.1	14.9	30.6	30.5	31.2
52.5 and under 57.5	15.3	14.8	16.6	3.4	3.2	4.4	21.3	20.2	22.5	27.1	29.1	4.2
57.5 and under 62.5	11.8	9.7	17.7	7.2	5.6	14.1	17.6	15.4	20.2	8.8	9.4	2.9
62.5 and under 67.5	9.3	8.9	10.3	8.6	7.7	12.6	12.7	14.6	10.2	3.3	3.4	2.0
67.5 and under 72.5	6.4	5.6	8.4	9.3	6.9	20.0	5.9	7.1	4.4	1.2	1.2	1.1
72.5 and under 77.5	5.7	6.1	4.7	9.8	9.9	9.7	3.5	3.9	3.1	1.8	2.0	—
77.5 and under 82.5	5.3	5.3	5.3	10.5	10.1	11.9	2.5	2.1	3.1	.6	.7	—
82.5 and under 87.5	4.9	6.0	2.2	10.6	11.7	4.6	1.8	2.2	1.4	.1	.1	—
87.5 and under 92.5	4.1	4.9	1.9	9.6	10.2	7.0	.5	.8	.1	.3	.4	—
92.5 and under 100.0	3.1	4.0	.5	7.3	8.7	1.4	.4	.5	.3	.1	.1	—
100.0 and under 110.0	2.7	3.6	.3	6.7	8.1	.6	.1	(²)	.3	(²)	(²)	—
110.0 and under 120.0	2.0	2.7	.3	4.9	6.0	.2	.1	—	.3	—	—	—
120.0 and over	2.2	3.0	(²)	5.5	6.7	—	(²)	—	.1	—	—	—
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of workers (weighted)	28, 191	20, 604	7, 587	11, 201	9, 163	2, 038	11, 735	6, 635	5, 100	5, 255	4, 806	449

INDEPENDENT WOOL CARPET YARN MILLS³

30.0 and under 32.5	0.1	0.1	—	—	—	—	0.1	0.3	—	—	—	—
32.5 and under 35.0	.3	.3	0.3	—	—	—	.2	—	0.4	1.5	1.6	—
35.0 and under 37.5	.6	.6	.7	—	—	—	.2	.1	.2	4.6	3.2	—
37.5 and under 40.0	.5	.8	.1	—	—	—	.1	—	.1	4.6	4.8	—
40.0 and under 42.5	1.6	1.8	1.2	—	—	—	.8	.9	.7	9.1	8.0	—
42.5 and under 47.5	6.8	4.3	11.1	—	—	—	7.2	2.4	11.4	17.5	18.4	—
47.5 and under 52.5	13.2	4.8	27.8	0.2	0.2	—	16.8	4.1	28.1	16.7	16.0	—
52.5 and under 57.5	27.9	11.9	55.5	—	—	—	37.1	14.7	57.2	26.3	27.2	—
57.5 and under 62.5	9.0	13.3	1.5	2.1	1.4	—	10.3	20.6	1.1	14.8	15.6	—
62.5 and under 67.5	10.5	16.2	.7	1.9	2.0	—	14.8	30.8	.7	1.5	1.6	—
67.5 and under 72.5	13.8	21.5	.5	27.2	27.0	—	11.5	24.4	—	1.9	2.0	—
72.5 and under 77.5	6.9	10.7	.5	29.4	29.2	—	.8	1.7	—	—	—	—
77.5 and under 82.5	3.0	4.6	.1	13.4	13.7	—	.1	—	.1	—	—	—
82.5 and under 87.5	1.8	2.8	—	8.2	8.3	—	—	—	—	—	—	—
87.5 and under 92.5	.9	1.4	—	4.1	4.2	—	—	—	—	—	—	—
92.5 and under 100.0	.8	1.3	—	3.1	3.2	—	—	—	—	1.5	1.6	—
100.0 and under 110.0	.7	1.1	—	3.3	3.4	—	—	—	—	—	—	—
110.0 and under 120.0	.4	.6	—	1.7	1.8	—	—	—	—	—	—	—
120.0 and over	1.2	1.9	—	5.4	5.6	—	—	—	—	—	—	—
Total	100.0	100.0	100.0	100.0	100.0	—	100.0	100.0	100.0	100.0	100.0	—
Number of workers (weighted)	2, 367	1, 500	867	515	503	12	1, 589	747	842	263	250	13

¹ Includes yarn operations in mills with spinning departments.² Less than a tenth of 1 percent.³ Not a sufficient number of female skilled and unskilled workers to permit the presentation of a distribution.

Further evidence of the difference in their average earnings is found by comparing the distributions for the several skill and sex groups in the two types of plants. In the yarn mills, for example, nearly three-fifths (57.2 percent) of the semiskilled females, who constituted the largest skill-sex group, averaged between 52.5 and 57.5 cents an hour. For this group of workers in the weaving mills,

on the other hand, the same earnings interval, which was also the modal class, included only 22.5 percent of the total. Likewise, for the skilled males, who were most numerous among the employees of weaving establishments, the modal class (82.5 and under 87.5 cents) contained only 11.7 percent of the workers. In the yarn mills the largest concentration of earnings for this group occurred in a lower 5-cent class (72.5 and under 77.5 cents) but contained nearly three-tenths (29.2 percent) of the workers.

OTHER FACTORS INFLUENCING AVERAGE HOURLY EARNINGS

A number of additional factors, including variations in size of plant, size of community, geographical location, labor organization, and type of product, exert considerable influence on the wage structure of the individual plants in the industry. While some evidence points to geographical differences in average hourly earnings, the small size of the industry branch makes it impossible to assess this factor in exact terms without revealing data for single establishments. On the other hand, indications of variation in wages by size of plant and size of community cannot be accepted without qualification, because of the possible influence of other factors. Here again, the industry does not supply enough examples of plants having each combination of characteristics to permit further analysis. Some indication of variations by type of product may be obtained from table 4 showing occupational averages.

EARNINGS IN RELATION TO FAIR LABOR STANDARDS ACT

Under provisions of the Fair Labor Standards Act in effect at the time of the survey, a minimum-wage rate of 30 cents an hour was applicable to manufacturing industries engaged in interstate commerce. The act further provides that a higher minimum, not exceeding 40 cents an hour, may be adopted upon recommendation by an Industry Committee, appointed by the Administrator.

According to table 2, only 3.6 percent of the workers in the wool carpet and rug industry as a whole were averaging under 40 cents an hour in November and December 1939. The proportion receiving under 35 cents amounted to only 1.2 percent of the total. Only 2.7 percent of the males and 5.6 percent of the females averaged under 40 cents an hour. In none of the skill-sex groups would the number affected exceed one-tenth of the total, the largest proportion involved being 8.6 percent of the small group of unskilled females. None of these workers were averaging under 35 cents, however, at the time of the survey.

Table 3 shows that the proportion of workers receiving under 40 cents an hour was not large in either the weaving mills or the inde-

pendent yarn establishments, the respective percentages being 3.6 and 1.5. Only among the small group of unskilled employees in the independent yarn mills were as many as a tenth of the workers averaging less than 40 cents.

OCCUPATIONAL DIFFERENCES

Average hourly earnings by occupational groups are shown in table 4. The averages ranged from \$1.079 an hour for the male broad-loom⁶ Wilton weavers to 37.8 cents for the female learners.

Among the skilled males, the most important occupations as measured by number of employees were the broad-loom Axminster weavers, the broad- and narrow-loom Wilton weavers, and the mule spinners. The earnings of loom fixers, also an important group, averaged \$1.043, which was exceeded only by the average for the male broad-loom Wilton weavers. The relatively small group of narrow-loom chenille weavers received 57.6 cents an hour, which was the lowest average shown for any skilled male occupation.

TABLE 4.—Average Hourly Earnings, Weekly Hours, and Weekly Earnings of Wool Carpet and Rug Workers, by Sex, Skill, and Occupation, November and December 1939

Skill, sex, and occupation	Average hourly earnings	Average weekly hours	Average weekly earnings
All workers.....	\$0. 655	38. 1	\$24. 94
Skilled workers.....	. 817	37. 9	30. 95
Males.....	. 845	38. 7	32. 69
Blacksmiths.....	. 823	41. 4	34. 03
Card grinders.....	. 866	40. 1	34. 71
Card strippers.....	. 658	39. 5	26. 01
Carpenters.....	. 786	40. 8	32. 06
Electricians.....	. 810	41. 1	33. 30
Engineers.....	. 866	45. 7	39. 52
Fixers, machine (other than loom).....	. 738	40. 1	29. 59
Foremen, working.....	. 958	41. 7	39. 92
Inspectors, carpets and rugs.....	. 634	39. 3	24. 92
Loom fixers.....	1. 043	40. 0	41. 78
Machinists.....	. 813	40. 4	32. 87
Millwrights.....	. 792	40. 4	31. 98
Painters.....	. 670	40. 6	27. 17
Pipefitters, plumbers, and steamfitters.....	. 770	41. 3	31. 77
Spinners, mule.....	. 787	37. 9	29. 84
Subforemen, working.....	. 780	41. 0	31. 97
Tinsmiths.....	. 812	40. 1	32. 54
Weavers.....			
Axminster, broad loom.....	. 856	39. 4	33. 72
Axminster, narrow loom.....	. 609	38. 8	23. 63
Chenille, broad loom.....	. 812	40. 6	32. 93
Chenille, narrow loom.....	. 576	39. 9	22. 99
Tapestry, broad loom.....	. 993	38. 3	38. 03
Tapestry, narrow loom.....	. 771	30. 4	23. 44
Velvet, broad loom.....	. 870	37. 6	32. 71
Velvet, narrow loom.....	. 605	33. 5	20. 29
Wilton, broad loom.....	1. 079	37. 8	40. 81
Wilton, narrow loom.....	. 828	36. 4	30. 18
Welders.....	. 792	39. 7	31. 43
Miscellaneous maintenance workers.....	. 815	40. 5	32. 99
Miscellaneous skilled workers, other.....	. 821	38. 5	31. 59

⁶ For the purpose of this analysis the Bureau has defined a broad loom as one of 6/4 size (54 inches wide) or larger. The United States census of manufactures defines a broad loom as one of 8/4 size or over. An examination of the earnings data reveals, however, that the 6/4 loom should be considered a broad, rather than a narrow loom. The data for various broad-loom weavers also include earnings of a few weavers operating 2 narrow looms.

TABLE 4.—Average Hourly Earnings, Weekly Hours, and Weekly Earnings of Wool Carpet and Rug Workers, by Sex, Skill, and Occupation, November and December 1939—Continued

Skill, sex, and occupation	Average hourly earnings	Average weekly hours	Average weekly earnings
Skilled workers—Continued.			
Females	\$0.671	34.0	\$22.78
Foreladies	.676	40.6	27.43
Inspectors, carpets and rugs	.526	34.9	18.37
Setters (Axminster)	.696	32.7	22.74
Weavers, Axminster, narrow loom	.640	33.8	21.62
Weavers (chenille), weft	.563	37.0	20.84
Miscellaneous skilled workers	.683	36.8	25.16
Semiskilled workers	.571	38.0	21.69
Males	.582	39.4	22.90
Balers and packers	.573	39.1	22.41
Beam tiers	.544	40.4	21.97
Beamer tenders	.600	40.9	24.58
Card tenders	.570	38.6	21.97
Chain hangers (Axminster)	.615	40.0	24.60
Checkers and weighers	.571	39.1	22.34
Clerks, factory	.616	40.0	24.64
Cop sizers	.598	40.8	24.37
Creelers, Wilton	.464	38.4	17.83
Cutters	.607	40.5	24.57
Dryer operators	.600	37.0	22.18
Dyers	.616	37.3	23.00
Firemen	.617	42.9	26.44
Frame builders and repairers (Axminster)	.551	39.5	21.77
Helpers, machine fixers	.661	40.5	26.77
Helpers, maintenance	.594	40.6	24.15
Packers, yarn	.548	41.5	22.74
Picker tenders	.563	40.1	22.58
Piecers	.669	39.5	26.47
Reelers	.491	40.9	20.10
Scouring-machine tenders	.596	40.2	23.99
Sewing-machine operators	.624	37.7	23.50
Shearers	.657	39.9	26.24
Spool-storage hands	.821	38.1	31.32
Starchers and dryers, carpets	.591	40.7	24.05
Steamer operators	.600	40.4	24.24
Stock men	.634	40.6	25.74
Threaders (Axminster)	.793	39.4	31.29
Truck drivers	.636	44.7	28.44
Twister tenders	.488	41.3	20.15
Weft cutters	.708	41.4	29.28
Winders	.620	32.7	20.27
Wire men	.555	39.3	21.79
Miscellaneous machine operators	.591	39.1	23.14
Miscellaneous semiskilled workers, other	.595	38.3	22.82
Females	.557	36.2	20.19
Beamer tenders	.601	35.4	21.26
Burlers	.623	36.4	22.68
Clerks, factory	.464	39.2	18.18
Reelers	.559	34.1	19.06
Sewers, hand	.491	40.4	19.87
Sewing-machine operators	.534	39.5	21.11
Spinners, frame	.560	37.5	21.00
Spoolers	.532	33.1	17.62
Twister tenders	.540	37.1	20.05
Winders	.525	37.1	19.46
Miscellaneous semiskilled workers	.533	37.4	19.91
Unskilled workers	.516	38.8	20.03
Males	.520	38.9	20.26
Creelers, beaming	.505	39.1	19.73
Doffers	.567	36.1	20.48
Elevator operators	.491	40.0	19.68
Floor hands	.502	39.1	19.63
Helpers, processing	.521	39.4	20.52
Helpers, shipping	.497	40.3	20.03
Janitors	.464	37.9	17.61
Labelers	.570	39.9	22.78
Laborers—			
Dye house	.572	34.7	19.86
General	.507	38.0	19.27
Maintenance	.539	41.3	22.27
Learners	.392	39.1	15.33
Machinery offers	.517	40.2	20.78
Raw stock blenders	.563	38.3	21.55

Table 4.—Average Hourly Earnings, Weekly Hours, and Weekly Earnings of Wool Carpet and Rug Workers, by Sex, Skill and Occupation, November and December 1939—Continued.

Skill, sex, and occupation	Average hourly earnings	Average weekly hours	Average weekly earnings
Unskilled workers—Continued			
Males—Continued			
Spool strippers.....	\$0.536	38.4	\$20.56
Starch makers.....	.596	40.0	23.84
Sweepers.....	.443	39.6	17.55
Truckers, hand.....	.532	39.3	20.92
Waste pickers.....	.506	39.4	19.95
Watchmen.....	.476	41.8	19.90
Miscellaneous unskilled workers.....	.559	38.6	21.59
Females.....	.466	37.6	17.53
Creelers, beaming.....	.413	39.0	16.10
Doffers, frame spinning.....	.525	37.6	19.73
Helpers, processing.....	.511	39.0	19.92
Learners.....	.378	36.9	13.95
Miscellaneous unskilled workers.....	.470	37.4	17.59

Over three-fifths of the skilled females were employed as Axminster setters. It will be observed that this group received the highest earnings (69.6 cents) reported for the skilled females. The carpet inspectors received 52.6 cents an hour, which was the lowest average shown for the skilled females.

The Wilton creelers were most numerous among the semiskilled males, accounting for about a seventh of the total. Their earnings, however, were among the lowest in this skill-sex group, averaging only 46.4 cents, as compared, for example, with 57.0 cents for card tenders, which was the next in number of workers, and 82.1 cents for the small group of spool-storage hands, who were the highest paid of the semiskilled males.

Among the semiskilled females, the largest groups were the burlers, twister tenders, and winders, each accounting for over a sixth of the total employees in this skill-sex group. The burlers had the highest average (62.3 cents), while the lowest earnings in this group were reported for the factory clerks, who averaged 46.4 cents an hour.

The hand truckers constituted the largest group of unskilled males. Other important occupations in this category were the floor hands, general laborers, and processing helpers. The highest earnings were received by the small group of starch makers, who averaged 59.6 cents an hour. The learners were paid 39.2 cents, which was the lowest average reported for any male occupational group.

Most of the unskilled females were in occupations having too few woman employees to permit the presentation of separate averages. Among those for which figures can be shown, it will be observed that the doffers on frame spinning machines had the highest average, 52.5 cents an hour.

The presence of both men and women in substantial numbers in several important occupations affords an opportunity to make significant comparisons of earnings of males and females. In making such comparisons, however, it must be borne in mind that the actual duties performed by male employees in some occupations may include heavy tasks that are not required of the females in the same jobs. Thus, for example, female weavers may require assistance in removing finished products from the machine, whereas the male weavers might perform this operation without such assistance. This difference might be considered a justification for a lower rate of pay for women than for men in this job. On the other hand, women frequently are able to earn more than men in many piece-rate jobs requiring considerable manual dexterity.

Among the skilled employees, only the carpet and rug inspectors and the narrow-loom Axminster weavers contained a sufficient number of both men and women to permit a comparison. In the former group, the earnings of males exceeded those of females by 10.8 cents an hour. In the latter, however, women averaged 3.1 cents per hour more than men.

In the list of semiskilled occupations, the earnings of males exceeded the average for females by 15.2, 9.0, and 9.5 cents, respectively, in the occupations of clerks, sewing-machine operators, and winders. On the other hand, the averages for male and female beamer tenders were almost identical, while women averaged 6.8 cents more than men as reelers and 5.2 cents more as twister tenders.

Among the unskilled employees, male beaming creelers averaged 50.5 cents, as compared with 41.3 cents for females in the same occupation, a difference of 9.2 cents. No significant comparison of earnings for male and female doffers is possible, because of the fact that the former are largely employed in doffing from mule-spinning machines, whereas the latter work on frame equipment. Likewise, the groups of processing helpers and learners are not identical in occupational content with respect to male and female employees.

The table of occupational averages is of considerable value for the light it throws on variations in earnings by type of product and size of loom. Among the male weavers, for example, the most striking feature is the substantially higher averages shown for the broad-loom as compared with the narrow-loom operators. Thus, the velvet broad-loom weavers averaged 87 cents, which was 26.5 cents higher than the average for narrow-loom weavers on this product. The differences in the earnings of weavers on the two classes of looms were 25.1 cents for Wiltons, 24.7 cents for Axminsters, 23.6 cents for chenilles, and 22.2 cents for tapestries.

The variations in hourly earnings by type of product are illustrated by the fact that the average for Wilton broad-loom weavers was 8.6 cents above that for the operators of tapestry broad looms. The latter received 12.3 cents more per hour than the average for velvet broad-loom weavers, who, in turn, averaged 1.4 cents more than the Axminster broad-loom weavers and 5.8 cents more than the weavers producing broad-loom chenilles. Similar variations will be observed in the earnings of the narrow-loom operators.

Examination of the data for other occupational groups also yields some significant comparisons. It is interesting to note, for example, that the creelers, an important occupation in Wilton weaving, received but 46.4 cents an hour, one of the lowest averages shown for the industry. This is in sharp contrast with the earnings of Wilton weavers, who were among the highest-paid employees in the industry. On the other hand, the auxiliary occupations in Axminster weaving were relatively well paid as compared with the weavers. Thus, the female setters received 69.6 cents an hour, or 5.6 cents more than the average for the female, and 8.7 cents above the average for male narrow-loom Axminster weavers. The Axminster chain hangers, a semiskilled male occupation, averaged 61.5 cents, while the male Axminster threaders, also classed as semiskilled, averaged 79.3 cents, which was 6.3 cents below the level of the male broad-loom Axminster weavers, the highest-paid group employed exclusively on this product.

EFFECT OF EXTRA OVERTIME RATES ON HOURLY EARNINGS

As previously mentioned, the earnings data presented in this report do not include extra payments for overtime work.⁷ Although some extra overtime payments were made in virtually all of the establishments covered by the survey, the addition of these earnings would have increased the plant average but slightly in each case. In fact, for only one plant would the average have changed by as much as 1 cent. Furthermore, the overtime payments were generally distributed over the entire pay roll in each mill. Hence, the extra earnings are not heavily concentrated in particular occupational groups. Taking the wool branch as a whole, the inclusion of the extra overtime earnings would have increased the hourly average by only two-tenths of a cent. The increase in the average for both yarn and weaving mills was nearly identical.

Weekly Hours and Earnings

The actual workweek averaged 38.1 hours for all wage earners in the industry at the time of the survey. (See table 4.) Among the

⁷ The Fair Labor Standards Act requires the payment of time and a half for all time worked beyond 42 hours per week. A number of the plants covered by the survey paid time and a half for time worked beyond 8 hours a day or 40 hours a week.

males the average was 38.7 hours for skilled, 39.4 hours for semiskilled, and 38.9 hours for unskilled workers. In comparison, the respective averages for females were 34.0 hours, 36.2 hours, and 37.6 hours. It will be observed that the semiskilled employees had the longest workweek among the males, while among the females the unskilled workers had the highest average.

The occupational figures show that the engineers, a group of male skilled maintenance workers, had the longest actual workweek, averaging 45.7 hours during the period covered by the survey. The lowest average was reported for the male narrow-loom tapestry weavers, who had only 30.4 hours of work during the selected week.

Weekly earnings of all employees averaged \$24.94 in November and December 1939. The average varied from \$32.69 for the skilled males to \$17.53 for unskilled females. It will be observed that the difference in the weekly earnings of males and females amounted to \$9.91 for the skilled workers, as against only \$2.71 among the semiskilled and \$2.73 for the unskilled employees. The highest occupational figure was reported for the loom fixers, who averaged \$41.78. The lowest weekly earnings were received by the male and female learners, who averaged \$15.33 and \$13.95, respectively.

PAPER-FIBER AND GRASS CARPETS AND RUGS

Description of Industry

The paper-fiber and grass carpet and rug mills are widely distributed geographically, with two plants in Wisconsin, two in Massachusetts, and one each in Pennsylvania and New York.

Several of the plants in this branch made small quantities of carpets and rugs of wool, cotton, and wool and cotton mixtures. The volume of such output, however, was too small to permit separate tabulation of the employees working on these products. Some of the establishments also made fiber seat-cover materials, chiefly for the automobile industry.

Two plants had contracts with national labor organizations, including the Textile Workers Union of America and the United Furniture Workers, both of which are affiliated with the C. I. O.

Of the 590 employees scheduled, 450, or about three-fourths, were classed as semiskilled. The remaining workers were about equally divided between the skilled and unskilled categories. Over three-fourths of the workers were males. This group included all of the skilled and most of the unskilled employees.⁸ (See table 5.) As the number of skilled and unskilled workers was too limited to justify detailed analysis, the distribution shown in table 6 combines all skill classes for each sex.

⁸ 10 females were in unskilled occupations.

*Average Hourly Earnings*⁹

About three-fifths of the employees scheduled were paid on a straight piece-rate or production-bonus basis. The production-bonus workers were confined to one plant, which had a plan based on the Bedaux system. Some piece workers were employed in each of the remaining plants.

The hourly earnings of all employees averaged 48.9 cents at the time of the survey. The average for males was 50.3 cents, as compared with 44.3 cents for females. Skilled males earned 64.7 cents an hour, as against 49.6 cents for semiskilled and 39.2 cents for unskilled males.

TABLE 5.—*Average Hourly Earnings, Weekly Hours, and Weekly Earnings of Paper-Fiber and Grass Carpet and Rug Workers, by Sex and Skill*

Sex and skill	Number of workers	Average hourly earnings	Average weekly hours	Average weekly earnings
All workers.....	590	\$0. 489	40. 5	\$19. 81
Males.....	454	. 503	40. 6	20. 43
Skilled.....	68	. 647	39. 3	25. 46
Semiskilled.....	324	. 496	40. 7	20. 19
Unskilled.....	62	. 392	41. 3	16. 17
Females.....	136	. 443	40. 1	17. 75

According to table 6, over three-fifths (63.2 percent) of the workers averaged between 40.0 and 57.5 cents an hour. Nearly a fifth (18.9 percent) received under 40 cents and 8.5 percent earned less than 35 cents. On the other hand, 17.9 percent averaged 57.5 cents or more, and less than a tenth (9.1 percent) averaged 67.5 cents or more.

The proportions averaging under 40 cents an hour amounted to 18.0 percent of the males and 21.3 percent of the females. It should be observed, however, that the latter percentage actually represents only 29 employees.

TABLE 6.—*Percentage Distribution of Paper-Fiber and Grass Carpet and Rug Workers According to Average Hourly Earnings, by Sex*

Average hourly earnings	All workers	Males	Females
30.0 and under 32.5 cents.....	3.6	3.7	2.9
32.5 and under 35.0 cents.....	4.9	5.3	3.7
35.0 and under 37.5 cents.....	4.6	4.6	4.4
37.5 and under 40.0 cents.....	5.8	4.4	10.3
40.0 and under 42.5 cents.....	11.5	7.7	24.4
42.5 and under 47.5 cents.....	21.3	18.7	30.2
47.5 and under 52.5 cents.....	18.5	19.7	14.7
52.5 and under 57.5 cents.....	11.9	14.1	4.4
57.5 and under 62.5 cents.....	4.9	6.2	.7
62.5 and under 67.5 cents.....	3.9	4.2	2.9
67.5 and under 72.5 cents.....	4.4	5.7	.....
72.5 and under 77.5 cents.....	2.0	2.4	.7
77.5 and under 82.5 cents.....	1.0	1.1	.7
82.5 cents and over.....	1.7	2.2	.....
Total.....	100.0	100.0	100.0
Number of workers.....	590	454	136

⁹ The data shown in this section are based on earnings at regular rates of pay, excluding payments at extra rates for overtime work. Including the extra rates, the average for all employees was 40.2 cents, as against the average of 48.9 cents based on regular rates of pay.

Weekly Hours and Earnings

The actual weekly hours of work for all employees averaged 40.5 at the time of the survey. Male workers averaged 40.6 hours, as compared with 40.1 hours for females. The length of the workweek varied only to a minor extent among the three skill classes.

Weekly earnings of all employees averaged \$19.81. Males received \$20.43, which was \$2.68 more than the average for females. The average for skilled males (\$25.46) exceeded that of the semi-skilled males by \$5.27. In turn, the latter group averaged \$4.02 more than the unskilled males. (See table 5.)

COTTON CARPETS AND RUGS*Description of Industry*

Of the 17 cotton carpet and rug plants surveyed, 9 were reported to be making exclusively products covered by the definition for this branch, namely, cotton rugs of braided-yarn, chenille, or flat-woven types. In addition to these products, 2 of the remaining establishments made rag rugs, while 6 made various other products, including plush fabrics, reworked wool carpetings, bedspreads, and bath mats. Employees working on these products were excluded from the coverage. According to available information, most of the cotton rugs made in these plants were of less than room-size dimensions, although several mills supply rugs of any size on special order.

There is very little labor organization in the cotton branch of the carpet and rug industry. Among the plants scheduled, only one had an agreement with a national labor organization.

TABLE 7.—Average Hourly Earnings, Weekly Hours, and Weekly Earnings of Cotton Carpet and Rug Workers, by Sex and Skill

Sex and skill	Number of workers	Average hourly earnings	Average weekly hours	Average weekly earnings
All workers.....	789	\$0.426	37.2	\$15.84
Males.....	434	.479	38.2	18.28
Skilled.....	187	.569	37.3	21.24
Semiskilled.....	158	.420	39.2	16.45
Unskilled.....	89	.401	38.3	15.33
Females.....	355	.357	36.1	12.86

A majority of the workers in this branch of the industry were classed as semiskilled. Of the 789 employees scheduled, 61.0 percent were in this category; 26.1 percent were skilled and 12.9 percent unskilled. Most of the skilled and unskilled employees were males, who constituted 55.0 percent of the labor force, while all but 32 of the females were in semiskilled occupations. (See table 7.)

*Average Hourly Earnings*¹⁰

Straight piece-rate or production-bonus wage payment plans were in effect in 12 of the plants surveyed. In each of these mills, however, there were some employees, chiefly in the indirect and unskilled groups, who were paid straight-time rates. The number of workers actually receiving straight piece-rates or bonus earnings amounted to 43.6 percent of the total labor force.

The hourly earnings of all employees in this branch of the industry averaged 42.6 cents at the time of the survey. The average for males was 47.9 cents as compared with 35.7 cents for females, a difference of 12.2 cents. Skilled males averaged 56.9 cents, which was 14.9 cents above the average for the semiskilled males. The difference between the hourly earnings of semiskilled and unskilled males amounted to only 1.9 cents an hour.

TABLE 8.—*Percentage Distribution of Cotton Carpet and Rug Workers, According to Average Hourly Earnings, by Sex and Skill*

Average hourly earnings	Total	Males	Females
Under 30.0 cents.....	0.1	0.2	.....
Exactly 30.0 cents.....	20.2	15.7	25.6
30.1 and under 32.5 cents.....	5.8	4.8	6.7
32.5 and under 35.0 cents.....	15.6	8.3	24.8
35.0 and under 37.5 cents.....	11.3	11.8	10.7
37.5 and under 40.0 cents.....	10.0	6.7	14.1
40.0 and under 42.5 cents.....	5.8	6.7	4.5
42.5 and under 47.5 cents.....	8.1	9.2	6.8
47.5 and under 52.5 cents.....	8.5	12.2	3.9
52.5 and under 57.5 cents.....	3.0	4.1	1.7
57.5 and under 62.5 cents.....	2.3	3.7	.6
62.5 and under 67.5 cents.....	2.4	4.1	.3
67.5 and under 77.5 cents.....	1.8	3.0	.3
77.5 and under 87.5 cents.....	1.1	2.1	.....
87.5 and under 100.0 cents.....	1.1	2.1	.....
100.0 cents and over.....	2.9	5.3	.....
Total.....	100.0	100.0	100.0
Number of workers.....	789	434	355

The distribution of individual hourly earnings, as shown in table 8, reveals that nearly a sixth (15.7 percent) of the males, and a fourth (25.6 percent) of the females averaged exactly 30 cents an hour, which is the basic minimum required by the Fair Labor Standards Act.¹¹ Over three-fifths (63.0 percent) of the employees averaged under 40 cents, and about two-fifths (41.7 percent) under 35 cents an hour. An examination of the distributions for males and females reveals that over half (52.5 percent) of the former averaged 40 cents or more, whereas over four-fifths (81.9 percent) of the latter received less than that amount.

¹⁰ The data shown in this section are based on earnings at regular rates of pay, excluding extra payments for overtime work. With the payments at extra rates included, the average for all employees was 42.8 cents as compared with the average of 42.6 cents based on regular rates of pay.

¹¹ The one worker averaging under 30 cents an hour was classed as a learner by his employer.

Table 9 shows averages for the occupational groups containing a sufficient number of workers to permit the presentation of separate data. Male weavers, a skilled group, had the highest average shown, although it will be observed that this figure is less than the average (56.9 cents) for all skilled males. This difference is due to the fact that the skilled males other than weavers consisted largely of higher-paid working supervisors. Male winders, who were classed as semiskilled, received 32.3 cents an hour, which was the lowest average for the principal occupational groups. Among the female employees for whom occupational data could be shown, the sewing-machine operators received the highest average (37.3 cents) while the braiders had the lowest (32.8 cents).

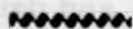
TABLE 9.—*Average Earnings, Weekly Hours, and Weekly Earnings, for Selected Occupations in Cotton Carpet and Rug Mills*

Sex, occupation and skill	Number of workers	Average hourly earnings	Average weekly hours	Average weekly earnings
Males:				
Weavers, skilled.....	138	\$0.519	37.6	\$19.05
Winders, semiskilled.....	29	.322	38.4	12.37
Females:				
Braiders, semiskilled.....	26	.328	34.3	11.25
Burlers and menders, semiskilled.....	64	.353	36.8	12.99
Sewing-machine operators, semiskilled.....	157	.373	36.5	13.59
Winders, semiskilled.....	53	.345	35.5	12.25

Weekly Hours and Earnings

The actual workweek for all employees averaged 37.2 hours at the time of the survey. The average was 38.2 hours for males, as against 36.1 hours for females. Among the males, it will be observed that the semiskilled workers had the longest workweek (39.2 hours), whereas the skilled had the shortest (37.3 hours).

Weekly earnings averaged \$15.84 for all workers, as against \$18.28 for males and \$12.86 for females. Skilled males averaged \$21.24, which was \$4.79 above the level for the semiskilled males. The average earnings of the latter exceeded those of the unskilled group by only \$1.12. (See table 9 for average weekly hours and earnings of selected occupational groups.)



WAGE RATES AND EMPLOYMENT ON FARMS

Changes in Wage Rates, 1929 to April 1940

THE general index of monthly farm wage rates constructed by the United States Bureau of Agricultural Economics shows a rise of 2 percent between April 1, 1939, and April 1, 1940. Estimated wages

per day without board averaged \$1.53 on April 1, 1939, and \$1.55 on April 1, 1940. Corresponding figures for other types of wages were as follows: Wages per day with board, \$1.23 and \$1.26; per month with board, \$27.08 and \$27.45; and per month without board, \$35.42 and \$36.41. The estimated number of hired farm workers fell from 2,187,000 on April 1, 1939, to 2,113,000 on April 1, 1940. The estimated average length of the working day of hired farm workers as reported for March 1, 1940, was 9.5 hours.¹

The average rate per day without board was \$1.56 in 1939 as compared to \$2.25 in 1929 and \$1.20 in 1932. Somewhat similar changes are observable in the other types of wages over the 10-year period. The weighted average monthly rate fell 47 percent between 1929 and 1932, and in 1939 was still 31 percent lower than in 1929. (See table 1.) The prices paid by hired farm workers for goods and services were materially lower, of course, both in 1932 and 1939 than in 1929, but farm wages in terms of purchasing power failed to regain the 1929 levels.²

TABLE 1.—Farm Wage Rates in the United States, 1929 to April 1940¹

Year or month	Farm wage rates				Weighted average rate per month	
	Per month—		Per day—		Amount ²	Index numbers (average, 1924-29=100)
	With board	Without board	With board	Without board		
1929.....	\$40.61	\$51.22	\$ 1.96	\$2.25	\$44.52	101.2
1932.....	20.85	28.88	.94	1.20	23.66	53.8
1939.....	27.47	35.85	1.30	1.56	30.61	69.6
April 1, 1939.....	27.08	35.42	1.23	1.53	30.03	68.3
July 1, 1939.....	28.18	36.26	1.36	1.59	31.23	71.0
October 1, 1939.....	28.28	36.13	1.35	1.57	31.13	70.8
January 1, 1940.....	25.33	35.27	1.22	1.55	29.40	66.8
April 1, 1940.....	27.45	36.41	1.26	1.55	30.60	69.6

¹ U. S. Department of Agriculture, Crops and Markets, January 1939 and April 1940.

² Primarily significant for use in computing the index of wage rates.

Regional and Seasonal Variations in Wage Rates

There are extensive variations in wages in the different seasons of the year and especially in the different regions of the country. (See table 2.) The highest monthly and daily rates are paid in the Pacific

¹ These and the figures given later in this article are taken from recent issues of Crops and Markets, published each month by the U. S. Department of Agriculture, from quarterly press releases of the U. S. Bureau of Agricultural Economics on farm wage rates, and from monthly press releases of the same agency on farm employment. The wage-rate and employment series were both revised extensively in 1939. The quarterly summaries published in the Monthly Labor Review up to January 1939 made use of the original unrevised series. The revisions were summarized in three special articles in the Monthly Labor Review of June, July, and August 1939, reprinted as Serial No. R. 976 under the title, "Three Decades of Farm Labor."

² On cash wage rates versus real wages see Reliability and Adequacy of Farm Wage Rate Data, by R. F. Hale and R. L. Gastineau. This study, published by the U. S. Department of Agriculture, Agricultural Marketing Service, gives a brief history of the wage-rate series and a discussion of the methods and limitations of the series.

States. It is important, however, to note that the rates as reported are predominantly time rates paid to more or less regularly employed farm workers. In many areas, especially of the Pacific Coast region, piece rates paid to temporary and migratory workers are more important than time rates.

TABLE 2.—Regional and Seasonal Variations in Farm Wage Rates in the United States, April 1, 1939, to April 1, 1940¹

Geographic division and date	Rate per month		Rate per day	
	With board	Without board	With board	Without board
United States:				
April 1, 1939.....	\$27.08	\$35.42	\$1.23	\$1.53
July 1, 1939.....	28.18	36.26	1.36	1.59
October 1, 1939.....	28.28	36.13	1.35	1.57
January 1, 1940.....	25.33	35.27	1.22	1.55
April 1, 1940.....	27.45	36.41	1.26	1.55
New England:				
April 1, 1939.....	31.92	56.23	1.73	2.72
July 1, 1939.....	32.96	57.24	1.79	2.71
October 1, 1939.....	33.52	58.52	1.84	2.70
January 1, 1940.....	31.75	56.31	1.73	2.55
April 1, 1940.....	32.58	56.48	1.73	2.58
Middle Atlantic:				
April 1, 1939.....	28.48	45.39	1.64	2.26
July 1, 1939.....	29.23	45.56	1.74	2.33
October 1, 1939.....	29.37	45.62	1.76	2.35
January 1, 1940.....	27.46	43.56	1.61	2.21
April 1, 1940.....	29.05	46.22	1.68	2.29
East North Central:				
April 1, 1939.....	28.80	40.91	1.50	2.03
July 1, 1939.....	29.57	41.71	1.66	2.15
October 1, 1939.....	29.75	42.07	1.67	2.17
January 1, 1940.....	25.80	37.94	1.48	1.97
April 1, 1940.....	28.73	41.27	1.52	2.02
West North Central:				
April 1, 1939.....	28.21	38.41	1.38	1.87
July 1, 1939.....	29.05	39.19	1.57	2.06
October 1, 1939.....	28.89	39.36	1.58	2.11
January 1, 1940.....	22.32	33.33	1.24	1.77
April 1, 1940.....	27.98	38.59	1.39	1.87
South Atlantic:				
April 1, 1939.....	16.10	24.32	.84	1.14
July 1, 1939.....	16.89	25.17	.90	1.20
October 1, 1939.....	16.86	24.80	.88	1.19
January 1, 1940.....	16.76	25.08	.88	1.20
April 1, 1940.....	16.92	25.45	.88	1.18
East South Central:				
April 1, 1939.....	15.97	22.95	.78	1.02
July 1, 1939.....	16.47	23.57	.81	1.04
October 1, 1939.....	16.08	22.81	.77	1.03
January 1, 1940.....	15.93	22.99	.79	1.03
April 1, 1940.....	16.14	23.39	.80	1.04
West South Central:				
April 1, 1939.....	18.54	26.94	.92	1.18
July 1, 1939.....	19.19	27.68	1.00	1.26
October 1, 1939.....	18.98	27.46	1.00	1.24
January 1, 1940.....	18.35	27.01	.93	1.19
April 1, 1940.....	18.70	27.37	.92	1.18
Mountain:				
April 1, 1939.....	35.03	51.00	1.61	2.22
July 1, 1939.....	37.24	53.64	1.75	2.34
October 1, 1939.....	36.59	52.54	1.72	2.27
January 1, 1940.....	33.69	48.55	1.59	2.14
April 1, 1940.....	35.04	51.30	1.63	2.18
Pacific:				
April 1, 1939.....	40.89	62.31	1.96	2.66
July 1, 1939.....	43.18	64.04	2.00	2.70
October 1, 1939.....	44.79	67.04	2.02	2.79
January 1, 1940.....	40.30	65.78	1.92	2.70
April 1, 1940.....	41.57	64.91	1.96	2.68

¹ Department of Agriculture. Bureau of Agricultural Economics. Releases on farm wage rates, July 1939, January and April 1940.

Changes in Employment, 1929 to 1939

In the usual classification of farm workers, there are two main groups: Family workers and hired workers. The average number of each type was smaller in 1939 than in 1929. (See table 3.) Fluctuations accompanying depressions are naturally less extreme and less significant than in many industry employments. Members of farm operators' families do farm work extensively in peak seasons, when school is not in session, and under other circumstances that cause considerable monthly variations in the amount of reported farm family employment. It does not follow, however, that farm family workers are unemployed, in the sense of needing or seeking work, when they are not reported as employed. Hired farm workers, on the other hand, depend on wages and do not have the resources of farm operators and their families. Some hired farm workers are able to supplement their farm wages by wages from nonfarm work or by other income, but fluctuations in the number of hired farm workers are significant indications of unemployment, especially when nonfarm work is hard to find.

TABLE 3.—Average Number of Farm Workers in the United States, 1929, 1932, 1939¹

Year	Family workers		Hired workers		Total	
	Number	Index numbers (average, 1923-25= 100.0)	Number	Index numbers (average, 1923-25= 100.0)	Number	Index numbers (average, 1923-25= 100.0)
1929-----	8,305,000	97.5	2,988,000	103.8	11,293,000	99.0
1932-----	8,571,000	100.6	2,498,000	86.8	11,069,000	97.1
1939-----	8,150,000	95.7	2,479,000	86.1	10,629,000	93.3

¹ Data are from U. S. Works Progress Administration, National Research Project, Report No. A-8: Trends in Employment in Agriculture, 1909-1936; U. S. Department of Agriculture, Crops and Markets, January 1939; and Bureau of Agricultural Economics' releases on farm employment.

The annual figures are the averages of the number of persons employed on the first of the month.

Seasonal Variations in Employment

The highly seasonal nature of opportunities of wage workers on farms is shown by the variations in the number of hired farm workers by months. In 1939 the number in the country as a whole ranged from 1,629,000 in January to 3,091,000 in July. The number in the low month was thus only 53 percent of the number in the high month. In the various States and even in the main geographical divisions, the seasonable variations were in some instances much more extreme. The greatest difference between the number in the low month and the number in the peak month was in the Mountain States. The number in the low month was only 38 percent of the number in the high month. In the Mountain States the month of smallest employment was January and the peak month was September. (See table 4.)

TABLE 4.—Average Number of Hired Farm Workers in the United States, by Geographic Divisions, 1939 ¹

Geographic division	Average number of hired farm workers (In thousands)											
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
United States.....	1,629	1,799	1,893	2,187	2,587	2,929	3,091	2,845	3,019	3,022	2,639	2,104
New England.....	69	75	79	80	84	103	105	111	105	99	85	72
Middle Atlantic.....	147	164	152	184	210	210	259	233	221	222	201	172
East North Central.....	229	243	247	303	344	364	402	387	361	388	375	309
West North Central.....	215	229	239	296	378	389	468	489	448	440	437	331
South Atlantic.....	324	369	425	479	583	650	599	511	558	586	505	414
East South Central.....	171	177	198	217	252	321	285	207	285	285	235	198
West South Central.....	234	287	295	305	374	475	517	381	440	538	408	327
Mountain.....	84	99	100	125	157	180	196	209	221	209	183	116
Pacific.....	156	156	158	198	205	237	260	317	380	255	210	165

¹ U. S. Department of Agriculture. Bureau of Agricultural Economics. Monthly releases on farm employment, March 1939 to December 1939.

Hours of Work

Information regarding hours of work on farms, recently reported to the Department of Agriculture, indicates that the average working day of hired farm workers on September 1, 1939, was 10.1 hours; on December 1, 1939, 9.3 hours; and on March 1, 1940, 9.5 hours. Variations by regions were slight. (See table 5.) The reports on hours of work, like the reports on wage rates, are probably least adequate in relation to seasonal and migratory workers.

TABLE 5.—Length of Workday of Hired Farm Laborers in Geographic Divisions, September 1939 to March 1940 ¹

Geographic division	Average number of hours		
	Sept. 1, 1939	Dec. 1, 1939	Mar. 1, 1940
United States.....	10.1	9.3	9.5
New England.....	9.9	9.9	10.0
Middle Atlantic.....	10.2	9.8	10.0
East North Central.....	10.5	10.0	9.9
West North Central.....	10.9	9.7	9.9
South Atlantic.....	9.8	9.0	9.3
East South Central.....	10.0	8.9	9.3
West South Central.....	10.0	9.0	9.4
Mountain.....	9.9	9.0	9.3
Pacific.....	9.4	8.9	8.9

¹ U. S. Department of Agriculture. Crops and Markets, March 1940, p. 62.

WAGES IN MEAT INDUSTRY IN PROVINCE OF BUENOS AIRES, ARGENTINA ¹

THE average pay of workers in the meat industry in the Province of Buenos Aires, Argentina, amounts to 75 pesos² per month of 192 hours,

¹ Boletín del Trabajo de la República Argentina, Buenos Aires, March 1940.

² Average exchange rate of Argentine peso (100 centavos), March 1940=29.8 cents.

thus giving an average hourly wage of 39 centavos, according to a memorial to the Argentine Chamber of Deputies from the Federation of the Meat Industry (*Federación de la Industria de la Carne*). According to this memorial, with the exception of a very small number of workers (less than 1 percent), the highest average wages do not exceed 85 to 95 pesos per month, and wages of 50, 55, 60, and 64 pesos are frequent.



INCREASES IN WAGES AND SALARIES IN BOLIVIA, 1939¹

PAY increases of from 10 to 45 percent, according to the type of employment, on earnings up to 3,000 bolivianos² per month or 60 bolivianos per day as of September 30, 1939, became effective October 1, 1939, for all salaried and wage-earning employees in Bolivia, under decree-laws of October 21 and 26, 1939. A decree-law of October 6, 1939, had granted a 30-percent increase in the salaries of public servants and in payments to State pensioners, to be effective during the last quarter of 1939.

Domestic servants, including waiters in hotels, boarding houses, and restaurants, chauffeurs in private service, etc., were to receive an increase of 30 percent on their wage or salary as of September 30, 1939, if they received board and room; otherwise, the increases scheduled for day workers in industry and commerce were to apply, in the computation of which the stated amount of pay by the month was to be divided by 25 days. Home workers or piece workers were to receive an increase of 40 percent on the unit rate in effect on September 30, 1939. The percentages of increase for day work applied to 6 working days per week; if a period of only 5, 4, 3, 2, or 1 day of work was completed during the week, the percentage of increase was to be reduced by 5, 10, 15, 20, or 25 percent, respectively, absence from work because of illness or other justified cause not to be taken into account.

As the increases in pay established by this legislation are of an emergency nature, due to increased cost of living, only workers in service were to receive benefits, and the increases were not to be used as a basis for computation of social benefits, nor to be subject to income tax or any other tax. Application of this legislation was made subject to the regulations adopted by the Ministry of Labor and Social Welfare (*Ministerio del Trabajo y Previsión Social*), through its inspection service. Fines collected for noncompliance are to be used to increase the fund for construction of workers' living quarters.

The percentages of increase effective October 1, 1939, over rates paid on September 30, 1939, for salaried and wage-earning employees

¹ Data are from reports of Leslie W. Johnson, American vice consul at La Paz.

² On September 30, 1939, the boliviano was equivalent to 2.7 cents.

in industry and commerce and in mining, are shown in the following table:

Percentage of Wage Increases in Bolivia Effective From October 1, 1939

[Exchange rate of boliviano, September 30, 1939=2.7 cents]

Monthly salary (in bolivianos)	Industry and commerce	Mining ¹	Daily wage (in bolivianos)	Industry and commerce	Mining ¹
	Percent	Percent		Percent	Percent
Up to 500.....	40	25	Up to 10.....	45	25
Over 500 and up to 600.....	38	24	Over 10 and up to 12.....	43	24
Over 600 and up to 700.....	36	23	Over 12 and up to 14.....	41	23
Over 700 and up to 800.....	34	22	Over 14 and up to 16.....	39	22
Over 800 and up to 900.....	32	21	Over 16 and up to 18.....	36	21
Over 900 and up to 1,000.....	30	20	Over 18 and up to 20.....	33	20
Over 1,000 and up to 1,200.....	28	19	Over 20 and up to 24.....	30	19
Over 1,200 and up to 1,400.....	26	18	Over 24 and up to 28.....	27	18
Over 1,400 and up to 1,600.....	24	17	Over 28 and up to 32.....	24	17
Over 1,600 and up to 1,800.....	22	16	Over 32 and up to 36.....	21	16
Over 1,800 and up to 2,000.....	20	15	Over 36 and up to 40.....	18	15
Over 2,000 and up to 2,200.....	17	14	Over 40 and up to 45.....	15	14
Over 2,200 and up to 2,400.....	14	12	Over 45 and up to 50.....	12	12
Over 2,400 and up to 3,000.....	10	10	Over 50 and up to 60.....	10	10
Over 3,000.....			Over 60.....		

¹ Increases for mine workers are smaller than for workers in industry and commerce because of a 30-per-cent reduction in cost price in the mine canteens.

WAGES IN CANADA, 1939

THE upward turn in wages in Canada, which was first evidenced in logging, sawmilling, and common factory labor in 1934 and spread to all industrial groups in 1935, continued from 1936 to 1938 and to some extent during 1939.¹

From 1938 to 1939, average increases of less than 1 percent were shown for the miscellaneous factory and the building trades, and for common labor in factories; even smaller increases were shown in the printing and metal trades, in coal mining, and on electric railways. In logging and sawmilling the decreases averaged 1 percent. The index for all groups, weighted according to the approximate number of employees,² rose less than a half of 1 percent, as indicated in table 1.

As the figures are reported each year for the beginning of September or earlier, the wage changes after that month are not included—except in a few cases such as electric railways and the building trades, for which later data are ordinarily available in new agreements.

¹ Canada. Department of Labor. Wages and Hours of Labor in Canada, 1929, 1938, and 1939. Ottawa, 1940. (Report No. 23.)

² I. e., the average number of workers in each group in 1921 and 1931.

TABLE 1.—*Indexes of Wage Rates in Canada, 1929, 1933, and 1936 to 1939, by Industry*
[1913=100]

Industry	1939	1938	1937	1936	1933	1929
Building trades ¹	170.7	169.4	165.3	160.8	158.0	197.5
Metal trades ²	189.8	189.3	187.4	170.1	169.2	184.6
Printing trades ³	191.5	190.7	187.8	185.2	184.3	202.3
Electric railways ⁴	194.9	193.7	190.5	185.5	182.7	198.6
Steam railways ⁵	204.3	204.3	196.1	183.9	179.7	204.3
Coal mining ⁶	174.5	174.4	166.8	165.9	161.9	168.9
Average, unweighted ⁷	187.6	187.0	182.3	175.2	172.6	192.7
Average, weighted ⁸	188.4	187.8	182.9	172.9	170.2	195.0
Common factory	201.4	199.7	195.5	179.7	168.1	187.8
Miscellaneous factory trades ⁹	211.8	210.3	203.7	188.8	175.7	202.1
Logging and sawmilling ⁹	194.3	197.2	188.1	165.9	121.7	185.6
General average, weighted ⁸	198.3	¹⁰ 197.4	191.7	178.6	168.3	196.0

¹ 9 trades, 14 cities in 1929; after 1930, 31 to 42 cities.² 4 trades.³ 6 trades.⁴ 5 classes.⁵ 23 classes.⁶ 12 classes.⁷ Average for above 6 industry groups.⁸ Weighted according to average number of workers in each group in 1921 and in 1931.⁹ The number of samples (and industries) increased from time to time; machine operators, helpers, etc., also included.¹⁰ Erroneously printed as 199.4 in preceding source report.TABLE 2.—*Rates of Wages and Hours of Labor in Specified Canadian Cities, 1938 and 1939,¹ by Occupation*

BUILDING TRADES

Occupation	Ottawa		Toronto		Vancouver	
	Wage rates	Hours per week	Wage rates	Hours per week	Wage rates	Hours per week
Bricklayers and masons:	<i>Per hour</i>		<i>Per hour</i>		<i>Per hour</i>	
1938	\$0.90	44	\$1.05	40	\$1.10	40
1939	\$0.90-1.00	44	1.00	40	1.10	40
Carpenters:						
1938	.85	44	.95	40	\$0.75 - .90	40-44
1939	.85	44	.90	40	.75 - .90	40-44
Electrical workers:						
1938	.80	40	1.00	40	.75 - 1.00	40-44
1939	.80	40	1.00	40	.75 - 1.00	40-44
Painters:						
1938	.65	44	.75	40	.62½ - .80	40-44
1939	.70	44	.75	40	.62½ - .80	40-44
Plasterers:						
1938	.85	44	.90	40	1.00	40
1939	.85	44	.90	40	1.00	40
Plumbers:						
1938	.95	40	1.00	40	1.00	40-44
1939	.95	40	1.00	40	1.00	40-44
Sheet-metal workers:						
1938	.85	40-44	.97½	40	1.00	40-44
1939	.85	40-44	.92½	40	1.00	40-44
Stonecutters:						
1938	.80	44	.95	40	1.00	40
1939	.80	44	.95	40	1.00	40
Laborers:						
1938	.40- .50	40-50	\$0.35- .50	40-60	.45- .50	40-48
1939	.40- .50	40-50	.35- .50	40-60	.45- .50	40-48

¹ Some revisions have been made in the 1938 figures since publication of report for that year.

TABLE 2.—Rates of Wages and Hours of Labor in Specified Canadian Cities, 1938 and 1939,² by Occupation—ContinuedSTREET RAILWAYS¹

Occupation	Ottawa		Toronto		Vancouver	
	Wage rates	Hours per week	Wage rates	Hours per week	Wage rates	Hours per week
Conductors and motormen: ³						
1938:	<i>Per hour</i>		<i>Per hour</i>		<i>Per hour</i>	
1-man cars.....	\$0.54	49½	\$0.65	44-48	\$0.69	48
2-man cars.....			.60	44-48	.63	48
1939:						
1-man cars.....	.54	49½	.65	44	.69	48
2-man cars.....			.60	44	.63	48
Linemen: ⁴						
1938.....	\$0.51 - .56	48	\$0.72- .78	44	\$0.68½- .97	40
1939.....	.51 - .56	48	.72- .78	44	.68½- .97	40
Shop and barn men: ⁵						
1938.....	.35 - .59	48	.54- .81	44-48	.52 - .75	44-48
1939.....	.35 - .59	48	.54- .81	44-48	.52 - .75	44-48
Electricians: ⁶						
1938.....	.45 - .61	48	.60- .79	44-48	.70 - .75	44
1939.....	.45 - .61	48	.60- .79	44-48	.70 - .75	44
Trackmen and laborers:						
1938.....	.38½- .44½	48	.45- .50	48	.45 - .54	44
1939.....	.38½- .44½	48	.45- .50	48	.45½- .54	44

PRINTING TRADES

Compositors, machine and hand, newspapers:	<i>Per week</i>		<i>Per week</i>		<i>Per week</i>	
1938.....	\$41.80	45	\$44.00	40	\$39.75-\$47.70	37½-45
1939.....	41.80	45	45.50	40	39.75	37½
Compositors, machine and hand, job:						
1938.....	\$30.00- 38.00	45-48	\$33.00- 40.00	44-48	40.50	44-48
1939.....	30.00- 38.00	45-48	33.00- 40.00	44-48	40.00- 40.50	40-44
Pressmen, newspapers:						
1938.....	40.85	48	44.00- 50.30	40-48	47.70	48
1939.....	40.85	45-48	45.50- 52.10	40-48	47.70	48
Pressmen, job:						
1938.....	30.00- 38.00	45-48	33.00- 40.00	44-48	40.50	44-48
1939.....	30.00- 38.00	48	33.00- 40.00	44-48	40.00- 40.70	40-44
Bookbinders:						
1938.....	30.00- 36.00	45-48	33.00- 40.00	44-48	37.20- 45.00	44-48
1939.....	30.00- 35.00	48	33.00- 40.00	44-48	37.20- 45.00	40-48
Bindery girls:						
1938.....	11.50- 14.50	45-48	12.50- 18.00	44-48	14.00- 20.25	44-48
1939.....	11.50- 14.50	45-48	12.50- 18.00	44-48	14.00- 20.00	40-48

¹ Where a range appears, figures represent predominant rates.² Maximum rates based on length of service; in most cities bus drivers on lines operated in connection with street railways receive the same maximum rates of wages as 1-man-car operators.³ Including trouble men and groundmen.⁴ Including shedmen, pitmen, cleaners, blacksmiths, carpenters, painters, etc.⁵ Including armature winders, wiremen, etc.

The wage rates and working hours in effect in specified occupations in 3 cities—Ottawa, Toronto, and Vancouver—in 1938 and 1939, are shown in table 2. Among the very few changes from 1938 to 1939 were: An increase of from 65 to 70 cents per hour for painters in Ottawa; a reduction of 5 cents an hour for bricklayers and masons in Toronto; and also in the last-mentioned city, advances of from \$44.00 to \$45.50 for machine and hand newspaper compositors, and from \$44.00-\$50.30 to \$45.50-\$52.10 for newspaper pressmen.

Agricultural Wages

In the summer season of 1939, for the Dominion as a whole, the estimated cash wage per month of male farm workers was \$24—the same as the 1938 estimate. The value of board in 1939 for these workers was estimated at \$16, which was \$1 less than the estimate for the preceding year.

The estimated annual cash wages together with the value of board for male farm workers in 1939 averaged \$424—\$19 above the 1938 average, while the combined yearly wages and board of female farm workers amounted to \$283 or \$8 more than in 1938.

Table 3 gives the average monthly and yearly wages of both male and female farm workers in the various Canadian Provinces. It will be noted that the remuneration of these workers is still far below that of 1929.³

TABLE 3.—Average Monthly and Yearly Wages of Farm Workers in Canada, 1929, 1933, and 1936 to 1939¹

Province and year	Per month, summer season						Per year					
	Males			Females			Males			Females		
	Cash wage	Value of board	Total	Cash wage	Value of board	Total	Cash wage	Value of board	Total	Cash wage	Value of board	Total
Canada:												
1929.....	\$40	\$23	\$63	\$23	\$20	\$43	\$373	\$254	\$627	\$242	\$223	\$465
1933.....	17	15	32	10	12	22	161	161	322	112	134	246
1936.....	21	16	37	11	13	24	206	168	374	126	135	261
1937.....	23	17	40	12	13	25	224	176	400	134	138	272
1938.....	24	17	41	12	13	25	230	175	405	135	140	275
1939.....	24	16	40	12	13	25	245	179	424	140	143	283
Prince Edward Island:												
1929.....	34	18	52	19	13	32	327	207	534	196	159	355
1933.....	18	12	30	11	10	21	178	141	319	116	121	237
1936.....	18	13	31	11	11	22	190	161	351	126	136	262
1937.....	21	15	36	11	13	24	206	168	374	125	127	252
1938.....	20	13	33	10	11	21	205	159	364	130	130	260
1939.....	18	12	30	9	11	20	219	153	372	128	131	259
Nova Scotia:												
1929.....	38	19	57	19	15	34	383	222	605	212	179	391
1933.....	20	14	34	12	11	23	208	157	365	129	119	248
1936.....	22	15	37	12	11	23	245	170	415	136	124	260
1937.....	25	15	40	12	11	23	262	173	435	145	127	272
1938.....	25	16	41	11	12	23	269	170	439	145	132	277
1939.....	25	15	40	12	11	23	271	181	452	143	128	271
New Brunswick:												
1929.....	40	20	60	18	15	33	375	214	589	198	169	367
1933.....	18	13	31	10	10	20	185	151	336	107	120	227
1936.....	25	15	40	11	11	22	257	141	398	117	101	218
1937.....	28	16	44	12	12	24	295	147	442	133	115	248
1938.....	26	15	41	12	11	23	280	152	432	128	119	247
1939.....	25	14	39	12	12	24	293	146	439	143	121	264
Quebec:												
1929.....	41	20	61	19	14	33	369	208	577	191	151	342
1933.....	17	11	28	9	9	18	152	113	265	94	93	187
1936.....	19	13	32	10	10	20	196	136	332	106	100	206
1937.....	25	15	40	12	11	23	226	150	376	121	111	232
1938.....	24	14	38	11	11	22	247	151	398	122	113	235
1939.....	24	15	39	11	11	22	243	155	398	124	116	240

¹ Estimated by crop correspondents of the Dominion Bureau of Statistics.

³ Canada. Dominion Bureau of Statistics, Agricultural Branch. Monthly Bulletin of Agricultural Statistics, Ottawa, February 1940. Canadian Labor Gazette, Ottawa, May 1939.

TABLE 3.—Average Monthly and Yearly Wages of Farm Workers in Canada, 1929, 1933, and 1936 to 1939—Continued

Province and year	Per month, summer season						Per year					
	Males			Females			Males			Females		
	Cash wage	Value of board	Total	Cash wage	Value of board	Total	Cash wage	Value of board	Total	Cash wage	Value of board	Total
Ontario:												
1929.....	\$35	\$22	\$57	\$22	\$19	\$41	\$341	\$254	\$595	\$242	\$212	\$454
1933.....	17	15	32	12	13	25	159	166	325	123	141	264
1936.....	21	16	37	13	14	27	211	177	388	147	148	295
1937.....	25	18	43	14	15	29	235	186	421	158	154	312
1938.....	24	18	42	15	15	30	228	183	411	152	151	303
1939.....	24	17	41	15	14	29	252	188	440	165	155	320
Manitoba:												
1929.....	38	23	61	21	19	40	352	256	608	222	216	438
1933.....	15	14	29	8	12	20	143	164	307	89	140	229
1936.....	19	15	34	9	13	22	178	158	336	103	132	235
1937.....	21	16	37	10	13	23	202	165	367	113	136	249
1938.....	23	16	39	11	13	24	207	166	373	116	136	252
1939.....	22	15	37	11	13	24	221	177	398	124	143	267
Saskatchewan:												
1929.....	44	25	69	24	22	46	398	287	685	256	240	496
1933.....	16	15	31	8	12	20	144	161	305	85	137	222
1936.....	19	16	35	9	13	22	188	158	346	105	133	238
1937.....	19	16	35	10	13	23	184	160	344	106	127	233
1938.....	22	15	37	10	13	23	203	160	363	113	134	247
1939.....	22	16	38	11	13	24	218	163	381	122	140	262
Alberta:												
1929.....	43	25	68	25	21	46	404	274	678	253	232	485
1933.....	19	15	34	10	13	23	170	174	344	109	152	261
1936.....	22	16	38	11	14	25	206	172	378	125	146	271
1937.....	23	17	40	12	15	27	221	180	401	131	151	282
1938.....	25	18	43	12	15	27	237	181	418	137	152	289
1939.....	25	17	42	12	15	27	251	180	431	143	152	295
British Columbia:												
1929.....	49	27	76	28	23	51	482	310	792	291	271	562
1933.....	23	19	42	14	15	29	234	212	446	152	180	332
1936.....	25	21	46	15	17	32	265	229	494	166	192	358
1937.....	28	21	49	17	18	35	279	234	513	170	193	363
1938.....	28	22	50	16	19	35	284	238	522	170	195	365
1939.....	28	21	49	15	19	34	285	240	525	172	198	370

WAGES AND EMPLOYMENT IN CHILE, 1939 ¹

THE average daily wage paid in 10 Chilean industries in 1939 was 16.62 pesos,² as compared with 14.16 pesos in 1938, and 12.60 pesos in 1937. Wage earners employed in December of each of these years numbered 19,645, 19,456, and 17,914 persons, respectively. In December 1939, workers in the sugar and electrical industries and in the gas, tar, and coke industry were employed 31 days; in the paper and cardboard industry, 29 days; in the cotton-goods industry, 26 days; in match manufacturing, 19 days; and in the remaining industries, 24 days.

The highest average daily wage for 1939 (30.26 pesos) was paid in the paper and cardboard industry. In 1937 and 1938 this industry also had the highest daily wages—18.70 and 21.85 pesos, respectively.

¹ Chile, Direccion General de Estadistica, Estadistica Chilena, Santiago, December 1939.

² Average official exchange rate of Chilean peso, 1937-39=5.17 cents.

The second highest average daily wage was paid in the cement industry for each of the 3 years, 18.20 pesos in 1937, 21.84 pesos in 1938, and 25 pesos in 1939. The lowest average daily wages for 1937 and 1938 were paid in the match industry (6.90 and 7.72 pesos, respectively), but for 1939 the lowest wages were paid in the tobacco industry (11.11 pesos); the lowest average daily wage in December 1939 was paid in the cotton-goods industry (12.14 pesos). At that time, average daily wages in the paper and cardboard industry amounted to 36.55 pesos, a little more than 3 times as much as the rate in the cotton-goods industry.

In December 1939, there were 19,645 wage earners employed in the 10 selected industries, with an average daily wage of 19.03 pesos, which was 14.5 percent greater than the average for the year 1939. In that month, 8,312 workers (42.3 percent of the total), employed in the cement, gas, tar, and coke, woolen-goods, and paper and cardboard industries, received an average wage higher than the highest average for 1937 in any of the 10 selected industries; but, on the other hand, 7,318 workers (37.25 percent of the total) employed in the beer, match, cotton-goods, and tobacco industries, were still receiving in December 1939 less than the average daily wage for 1939 for the 10 selected industries.

The accompanying table shows the average daily wage in 10 selected Chilean industries, by industry and by year, 1937-39, and the wage-earning personnel employed, days worked, and average daily wage in December 1939.

Average Daily Wage in 10 Chilean Industries, by Industry, 1937-39, and Wage Earners, Days Worked, and Average Daily Wage in December 1939

Industry	Average daily wage			December 1939		
	1937	1938	1939	Wage-earning persons employed	Days worked	Average daily wage
	Pesos	Pesos	Pesos			Pesos
All industries.....	12.60	14.16	16.62	19,645	-----	19.30
Sugar.....	15.40	16.60	17.14	1,369	31	19.02
Cement.....	18.20	21.84	25.00	1,664	24	29.52
Beer.....	11.40	12.75	14.53	2,417	24	16.31
Electricity.....	12.90	14.22	16.34	2,646	31	17.25
Matches.....	6.90	7.72	11.24	560	19	13.35
Gas, tar, and coke.....	16.60	17.77	20.49	970	31	21.55
Cotton goods.....	8.60	10.97	11.41	2,900	26	12.14
Woolen goods.....	10.40	11.62	12.84	4,124	24	16.72
Paper and cardboard.....	18.70	21.85	30.26	1,554	29	36.55
Tobacco.....	8.30	8.42	11.11	1,441	24	12.95

AVERAGE HOURLY EARNINGS OF METAL WORKERS IN THE NETHERLANDS, 1939 AND 1940

INCREASES in average hourly earnings were higher than those in hourly agreement wages January 1, 1940, as compared with the same date in 1939. Increases in earnings ranged from 1 to 4 cents per hour, as shown in the following table.¹

Average Hourly Earnings of Metal Workers in the Netherlands, January 1, 1939 and 1940

[Average exchange rate of guilder (100 Dutch cents) = 54.2 cents, Jan. 1, 1939; 53.2 cents, Jan. 1, 1940]

Wage area	Hourly rates (in Dutch cents), Jan. 1, of—											
	Skilled workers				Semiskilled workers				Unskilled workers			
	Earnings		Agreement wages		Earnings		Agreement wages		Earnings		Agreement wages	
	1939	1940	1939	1940	1939	1940	1939	1940	1939	1940	1939	1940
I.—Amsterdam, Rotterdam, and Scheidam	75	78	63	63	69	71	57	57	61	62	51	51
II.—Arnhem, Delft, Dordrecht, and others	69	70	57	57	60	61	50	50	54	55	48	47
III.—Alkenaar, Amersfoort, Apeldoorn, and others	57	61	51	53	50	53	44	45	44	46	39	40

¹ Maandschrift, The Hague, Centraal Bureau voor de Statistiek, March 30, 1940.

Labor Turn-Over

LABOR TURN-OVER IN MANUFACTURING, APRIL 1940

MODERATE increases in all types of separations and in total accessions were indicated by the Bureau of Labor Statistics' monthly survey of labor turn-over in manufacturing industries for April. The total separation rate, however, exceeded the accession rate by 0.61. The quit rate rose from 0.67 to 0.74. The discharge rate declined from 0.15 to 0.13; the miscellaneous separation rate remained virtually the same at 0.10. Lay-offs increased from 2.53 to 2.69 and total separations from 3.46 to 3.66.

Workers were hired at the rate of 3.05 per 100 employees compared with 2.94 in March and 2.93 in April 1939. The accession rate for April of 3.05 comprised a rehire rate of 1.42 and a new-hire rate of 1.63 per 100 employees.

Primarily responsible for the higher lay-off rate were the increases in rates in the men's clothing industry from 2.71 to 10.22 per 100 employees; automobiles and bodies, from 2.19 to 5.57; shipbuilding, from 3.65 to 6.53; silk and rayon goods, from 2.95 to 4.91. An outstanding decrease in the lay-off rate occurred in the aircraft industry, which dropped from 2.20 to 0.27 and was accompanied by an accession rate of 10.14, indicating a sharp expansion in the industry. Cement declined from 3.84 to 0.97, but at the same time the accession rate decreased from 16.76 to 9.20.

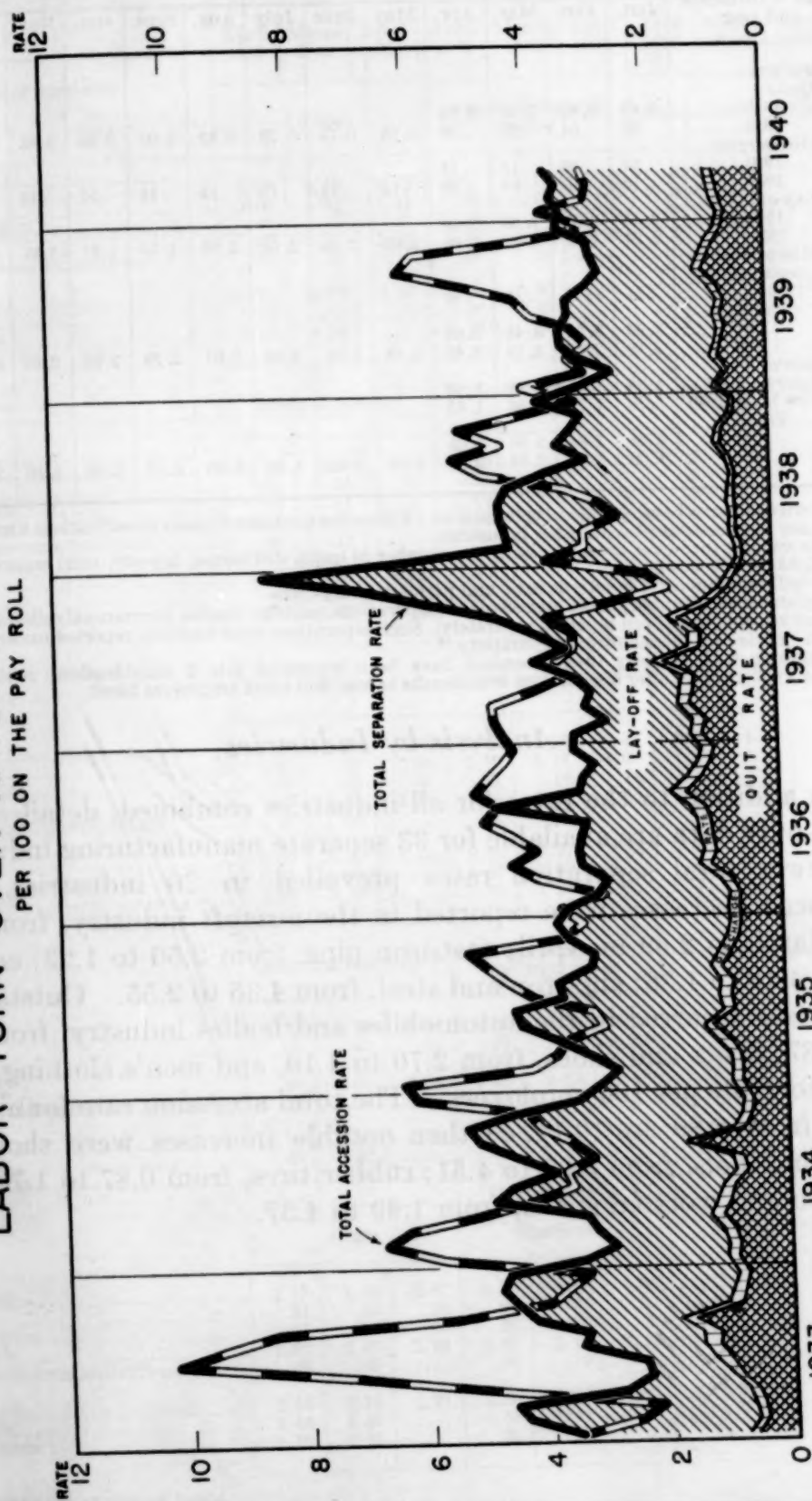
All Manufacturing

The Bureau of Labor Statistics' survey of labor turn-over covers approximately 5,800 representative manufacturing establishments, which in April employed more than 2,550,000 workers. The rates represent the number of changes in personnel per 100 employees on the pay rolls during the month.

The rates shown in table 1 are compiled from reports received from representative plants in 135 industries. In the 33 industries for which separate rates are published (see table 2), reports were received from representative plants employing at least 25 percent of the workers in each industry.

LABOR TURN-OVER RATES IN MANUFACTURING

PER 100 ON THE PAY ROLL



UNITED STATES BUREAU OF LABOR STATISTICS

TABLE 1.—Monthly Labor Turn-Over Rates in Representative Factories in 135¹ Industries²

Class of turn-over and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
Separations:													
Quits:													
1940	0.63	0.62	0.67	0.74									
1939	.85	.64	.82	.76	0.68	0.73	0.70	0.82	1.07	0.93	0.83	0.69	0.79
Discharges:													
1940	.14	.16	.15	.13									
1939	.10	.10	.13	.10	.13	.12	.12	.14	.14	.17	.15	.12	.13
Lay-offs:³													
1940	2.55	2.67	2.53	2.69									
1939	2.24	1.87	2.23	2.60	2.67	2.46	2.54	2.05	1.58	1.81	1.97	2.65	2.22
Miscellaneous separations,⁴													
1940	.11	.11	.11	.10									
Total:													
1940	3.43	3.56	3.46	3.66									
1939	3.19	2.61	3.18	3.46	3.48	3.31	3.36	3.01	2.79	2.91	2.95	3.46	3.14
Accessions:⁵													
Rehires, 1940	1.96	1.26	1.38	1.42									
New hires, 1940	1.78	1.72	1.56	1.63									
Total:													
1940	3.74	2.98	2.94	3.05									
1939	4.09	3.06	3.34	2.93	3.29	3.92	4.16	5.06	6.17	5.89	4.10	2.84	4.07

¹ Previous reports have specified 144 industries. Following the latest Census classifications 9 minor industries have been combined with other industries.

² The various turn-over rates represent the number of quits, discharges, lay-offs, total separations, and accessions per 100 employees.

³ Including temporary, indeterminate, and permanent lay-offs.

⁴ Beginning with January 1940, miscellaneous separations, such as, deaths, permanently disabled, retired on pensions, etc., have been reported separately. Such separations were formerly reported under the classification "quits and miscellaneous separations."

⁵ Beginning with January 1940, accessions have been separated into 2 classifications: rehires, which include workers hired after a separation of 3 months or less, and other employees hired.

Analysis by Industries

In addition to the rates for all industries combined, detailed labor turn-over data are available for 33 separate manufacturing industries.

Lower total separation rates prevailed in 20 industries. Pronounced decreases were reported in the aircraft industry, from 4.19 in March to 2.69 in April; cast-iron pipe, from 2.50 to 1.22; cement, from 4.18 to 1.36; and iron and steel, from 4.36 to 2.55. Outstanding increases occurred in the automobiles and bodies industry, from 3.15 to 6.37; boots and shoes, from 2.70 to 4.19, and men's clothing, from 3.71 to 11.09 per 100 employees. The total accession rate for aircraft rose from 8.89 to 10.14. Other notable increases were shown in machine tools, from 3.97 to 4.51; rubber tires, from 0.87 to 1.70; and woolen and worsted goods, from 1.99 to 4.37.

TABLE 2.—Monthly Labor Turn-Over Rates (per 100 Factory Employees) in 33 Manufacturing Industries

Class of turn-over	April 1940	March 1940	April 1939	April 1940	March 1940	April 1939	April 1940	March 1940	April 1939
	Aircraft			Automobiles and bodies			Automobile parts		
Separations.....	2.69	4.19	2.72	6.37	3.15	4.80	5.74	5.71	6.53
Quits.....	2.00	1.55	1.41	.68	.74	.49	.74	.62	.57
Discharges.....	.40	.42	.31	.06	.06	.09	.13	.12	.12
Lay-offs.....	.27	2.20	1.00	5.57	2.19	4.22	4.79	4.87	5.84
Miscellaneous separations ¹.....	.02	.02	-----	.06	.16	-----	.08	.10	-----
Accessions ²	10.14	8.89	9.94	2.20	2.30	2.41	4.19	3.64	3.48
Rehires.....	1.94	.51	-----	1.20	1.45	-----	1.91	2.34	-----
New hires.....	8.20	8.38	-----	1.09	.85	-----	2.28	1.30	-----
	Boots and shoes			Brick, tile, and terra cotta			Cast-iron pipe		
Separations.....	4.19	2.70	4.55	5.39	4.45	8.19	1.22	2.50	1.00
Quits.....	.72	.68	.70	.55	.51	.77	.26	.74	.62
Discharges.....	.11	.11	.13	.09	.04	.14	.33	.13	.13
Lay-offs.....	3.30	1.79	3.72	4.69	3.79	7.28	.49	1.59	.25
Miscellaneous separations ¹.....	.06	.12	-----	.06	.11	-----	.14	.04	-----
Accessions ²	1.49	2.07	1.21	7.90	6.61	6.32	1.54	1.02	2.95
Rehires.....	.80	1.02	-----	5.49	4.34	-----	.63	.43	-----
New hires.....	.69	1.05	-----	2.41	2.27	-----	.91	.59	-----
	Cement			Cigars and cigarettes			Cotton manufacturing		
Separations.....	1.36	4.18	4.29	2.39	2.95	2.33	5.28	4.86	4.22
Quits.....	.17	.19	.46	1.16	1.17	1.00	1.36	1.20	1.27
Discharges.....	.06	.05	.05	.12	.14	.14	.17	.21	.27
Lay-offs.....	.97	3.84	3.78	.89	1.52	1.10	3.66	3.27	2.68
Miscellaneous separations ¹.....	.16	.10	-----	.22	.12	-----	.09	.18	-----
Accessions ²	9.20	16.76	6.45	2.52	2.77	2.63	3.02	2.53	2.59
Rehires.....	6.51	14.68	-----	1.07	1.50	-----	1.31	.90	-----
New hires.....	2.69	2.08	-----	1.45	1.27	-----	1.71	1.63	-----
	Electrical machinery			Foundries and machine shops			Furniture		
Separations.....	1.73	2.20	3.18	2.51	3.28	2.74	3.42	3.33	4.14
Quits.....	.43	.40	.54	.66	.57	.62	.84	.68	.72
Discharges.....	.06	.11	.05	.17	.17	.09	.20	.22	.20
Lay-offs.....	.96	1.36	2.59	1.58	2.43	2.03	2.28	2.33	3.22
Miscellaneous separations ¹.....	.28	.33	-----	.10	.11	-----	.10	.10	-----
Accessions ²	1.90	2.45	2.32	2.53	2.51	2.63	3.43	3.30	3.22
Rehires.....	.69	.82	-----	.80	.58	-----	1.54	1.56	-----
New hires.....	1.21	1.63	-----	1.73	1.93	-----	1.89	1.74	-----
	Glass			Hardware			Iron and steel		
Separations.....	2.17	3.59	2.67	2.39	2.85	1.88	2.55	4.36	1.47
Quits.....	.31	.56	.37	.82	.47	.54	.40	.35	.36
Discharges.....	.05	.08	.06	.07	.16	.15	.08	.08	.04
Lay-offs.....	1.72	2.87	2.24	1.45	2.12	1.19	1.92	3.81	1.07
Miscellaneous separations ¹.....	.09	.08	-----	.05	.10	-----	.15	.12	-----
Accessions ²	2.55	2.70	2.31	1.36	1.22	1.28	1.12	.88	1.07
Rehires.....	1.46	1.52	-----	.53	.44	-----	.64	.51	-----
New hires.....	1.09	1.18	-----	.83	.78	-----	.48	.37	-----

See footnotes at end of table.

TABLE 2.—Monthly Labor Turn-Over Rates (per 100 Factory Employees) in 33 Manufacturing Industries—Continued

Class of turn-over	April 1940	March 1940	April 1939	April 1940	March 1940	April 1939	April 1940	March 1940	April 1939
	Knit goods			Machine tools			Men's clothing		
Separations.....	2.94	2.66	2.51	1.90	1.99	1.28	11.09	3.71	6.79
Quits.....	.72	.74	1.04	1.14	1.21	.64	.75	.80	.70
Discharges.....	.08	.12	.11	.40	.41	.05	.08	.10	.09
Lay-offs.....	2.12	1.77	1.36	.25	.28	.59	10.22	2.71	6.00
Miscellaneous separations ¹.....	.02	.03	-----	.11	.09	-----	.04	.10	-----
Accessions ²	2.02	2.63	2.74	4.51	3.97	2.65	1.98	2.42	3.93
Rehires.....	1.12	1.42	-----	.16	.10	-----	1.04	1.33	-----
New hires.....	.90	1.21	-----	4.35	3.87	-----	.94	1.09	-----
	Paints and varnishes			Paper and pulp			Petroleum refining		
Separations.....	1.64	1.61	1.56	1.31	1.78	1.85	1.10	2.21	1.98
Quits.....	.47	.45	.84	.43	.35	.55	.15	.21	.22
Discharges.....	.14	.17	.13	.11	.11	.11	.05	.04	.07
Lay-offs.....	.95	.94	.59	.60	1.16	1.19	.73	1.84	1.60
Miscellaneous separations ¹.....	.08	.05	-----	.17	.16	-----	.17	.12	-----
Accessions ²	2.00	1.94	3.39	1.91	1.37	2.03	2.22	2.41	2.83
Rehires.....	.50	.55	-----	.60	.58	-----	.66	.96	-----
New hires.....	1.50	1.39	-----	1.31	.79	-----	1.56	1.45	-----
	Printing and publishing						Radios and phonographs		
	Book and job			Newspapers					
Separations.....	4.31	4.41	3.58	2.00	1.78	2.23	3.56	4.71	5.14
Quits.....	.61	.46	.41	.33	.36	.22	1.08	1.17	1.35
Discharges.....	.19	.26	.09	.06	.09	.29	.12	.10	0.15
Lay-offs.....	3.39	3.50	3.08	1.52	1.30	1.72	2.32	3.43	3.64
Miscellaneous operations ¹.....	.12	.19	-----	.09	.03	-----	.04	.01	-----
Accessions ²	4.42	4.06	4.13	1.98	2.42	2.04	4.28	3.45	3.38
Rehires.....	2.42	2.35	-----	1.06	1.42	-----	2.72	2.51	-----
New hires.....	2.00	1.71	-----	.92	1.00	-----	1.56	.94	-----
	Rayon and allied products			Rubber boots and shoes			Rubber tires		
Separations.....	3.10	3.20	3.01	3.16	3.41	3.71	2.31	3.03	1.96
Quits.....	2.43	1.67	.52	.58	.43	.70	.27	.33	.36
Discharges.....	.15	.09	.14	.12	.17	.09	.05	.05	.05
Lay-offs.....	.49	1.42	2.35	2.19	2.48	2.92	1.88	2.50	1.55
Miscellaneous separations ¹.....	.03	.02	-----	.27	.33	-----	.11	.15	-----
Accessions ²	4.00	3.50	1.08	2.50	2.00	1.27	1.70	.87	2.04
Rehires.....	1.05	0.91	-----	1.92	1.57	-----	1.25	.66	-----
New hires.....	2.95	2.59	-----	.58	.43	-----	.45	.21	-----
	Sawmills			Shipbuilding			Silk and rayon goods		
Separations.....	4.15	4.21	3.59	8.06	5.01	2.05	6.01	3.80	5.12
Quits.....	1.09	.96	1.16	1.17	.95	.72	.93	.68	.88
Discharges.....	.22	.23	.19	.30	.33	.10	.05	.12	.08
Lay-offs.....	2.74	2.92	2.24	6.53	3.65	1.23	4.91	2.95	4.16
Miscellaneous separations ¹.....	.10	.10	-----	.06	.08	-----	.12	.05	-----
Accessions ²	5.71	5.09	7.97	6.24	7.04	5.10	3.56	3.47	3.24
Rehires.....	2.71	3.00	-----	1.68	1.12	-----	2.05	2.61	-----
New hires.....	3.00	2.09	-----	4.56	5.92	-----	1.51	.86	-----
	Slaughtering and meat packing			Steam and hot-water heating apparatus			Woolen and worsted goods		
Separations.....	7.60	7.19	5.34	1.58	2.25	4.17	9.47	11.39	6.92
Quits.....	.46	.46	.47	.54	.51	.54	.61	.60	1.24
Discharges.....	.23	.14	.28	.08	.08	.07	.11	.21	.08
Lay-offs.....	6.73	6.47	4.59	.87	1.59	3.56	8.67	10.13	5.60
Miscellaneous separations ¹.....	.18	.12	-----	.09	.07	-----	.08	.45	-----
Accessions ²	6.48	5.18	5.80	1.51	1.63	1.88	4.37	1.99	3.92
Rehires.....	4.68	3.46	-----	.47	.39	-----	3.82	1.47	-----
New hires.....	1.80	1.72	-----	1.04	1.24	-----	.55	.52	-----

¹ Prior to January 1940 miscellaneous separations were included with "quits."² No break-down of accessions prior to January 1940.

Trend of Employment and Pay Rolls

SUMMARY OF REPORTS FOR MAY 1940

Total Nonagricultural Employment

AN INCREASE of approximately 240,000 in employment in non-agricultural industries between April and May brought the level of employment in these industries about 1,000,000 above the corresponding period of last year. In general, the changes in the individual industrial groups from April to May were about usual for the season. There was a comparatively small net decline of 50,000 wage earners in factories, reflecting seasonal slackening in textile, apparel, and automobile plants. The gains in war-materials industries and in the seasonally active food and building-materials industries were not sufficient to offset these declines. Substantial increases were reported in both public and private construction, with approximately 130,000 more workers employed in May by construction contractors. Wholesale and retail stores took on about 60,000 workers and more employees were engaged in transportation and public utilities, as well as in the maintenance of State highways and in the service industries. In coal mining, employment was about 5,000 lower than in April, but 17,000 greater than last year at this time, when some coal mines were still shut down because of the delay in the signing of new wage agreements.

These figures do not include emergency employment which decreased 197,000, as follows: 173,000 on projects operated by the Work Projects Administration, 22,000 on the out-of-school work program of the National Youth Administration, and 2,000 in the Civilian Conservation Corps.

Industrial and Business Employment

Employment increases from April to May were reported by 44 of the 90 manufacturing industries surveyed and by 13 of the 16 non-manufacturing industries covered. Pay-roll increases were shown by 48 of the manufacturing and 11 of the nonmanufacturing industries. In manufacturing there was a decline of 0.6 percent (50,000 workers) in employment and a decline of 0.1 percent (\$160,000) in weekly pay rolls. The most important development was the continued rapid

expansion in the war-materials industries, particularly aircraft, engines, shipbuilding, machine tools, steel, woolen and worsted goods, and explosives. The main level of employment in the majority of manufacturing industries was still below the peak levels of 1937. In the war-materials industries, however, there was a great expansion. For example, employment in shipbuilding showed a gain of 23,800 wage earners (38.2 percent) in May 1940 as compared with the average for 1937; in aircraft manufactures, 41,200 (171.2 percent); in machine-tool factories, 15,400 (32.5 percent); in engine manufacturing, 14,600 (44.4 percent); in aluminum manufactures, 2,800 (11.7 percent); and in factories manufacturing explosives, 1,600 (28.5 percent).

Outside of manufacturing, the principal employment increase in May was in retail stores (1.6 percent or 53,600 workers), particularly in department stores, shops selling general merchandise, limited-price variety stores, and establishments selling lumber and building materials. In wholesale trade, the decline of 0.7 percent or 9,700 workers was primarily of a seasonal character and was due largely to reductions by farm-supply dealers and by dry-goods and apparel stores. There were increases, however, in employment by wholesalers dealing in lumber and building materials, other forest products, and iron and steel scrap.

Anthracite mines showed an employment increase of 1.0 percent or nearly 1,000 wage earners, while bituminous-coal mines reduced their forces by 1.4 percent or 6,000 workers. Employment in metal mines showed a gain of 2.3 percent or 1,600 workers, reflecting increased activity due to the war situation. In quarries, there was the usual seasonal expansion (2,500 workers). There were small gains in employment in public utilities (5,000), in year-round hotels (2,000), in brokerage offices, and in insurance offices. Laundries showed a seasonal employment expansion of 1.9 percent (4,400) and dyeing and cleaning firms a seasonal gain of 4.0 percent (2,500).

In the private building-construction industries, employment showed a gain of 13.6 percent from April to May and pay rolls an expansion of 19.5 percent. With but one exception, these increases were much larger than the gains shown for May in the past 7 years; in May 1936 the pay-roll gain (20.7 percent) was somewhat larger. Increases were general throughout the country, with the largest gains shown in the New England States, in the West North Central States, and in the East North Central States. General contractors expanded their forces 14.7 percent and the special trade-contracting group showed an employment gain of 13.0 percent. The figures for private building construction do not cover construction projects financed by the Works Progress Administration, the Public Works Administration, and the Reconstruction Finance Corporation, or by regular appropriations of the Federal, State, and local governments.

A preliminary report of the Interstate Commerce Commission shows an employment increase by class I railroads of 2.8 percent or nearly 27,900 workers between April and May. The total number employed in May was 1,012,483. Corresponding pay-roll figures were not available when this report was prepared; for April, they were \$155,485,785, a decrease of 1.4 percent since March.

Hours and earnings.—The average hours worked per week by manufacturing wage earners were 37.2 in May, a gain of 0.1 percent since April. The corresponding average hourly earnings were 66.9 cents, an increase of 0.5 percent from the preceding month. The average weekly earnings of factory workers were \$25.43, an increase of 0.5 percent since April.

TABLE 1.—*Employment, Pay Rolls, and Earnings in All Manufacturing Industries Combined and in Nonmanufacturing Industries, May 1940 (Preliminary Figures)*

Industry	Employment			Pay rolls			Average weekly earnings		
	Index, May 1940	Percentage change from—		Index, May 1940	Percentage change from—		Average in May 1940	Percentage change from—	
		April 1940	May 1939		April 1940	May 1939		April 1940	May 1939
All manufacturing industries combined ¹	(1923-25 = 100) 99.0	-0.6	+6.5	(1923-25 = 100) 96.2	-0.1	+13.2	\$25.43	+0.5	+6.3
Class I steam railroads ²	56.7	+2.8	+5.7	(3)	(3)	(3)	(3)	(3)	(3)
Coal mining:	(1929 = 100)			(1929 = 100)					
Anthracite ⁴	52.2	+1.0	-.8	40.0	+10.2	-29.9	25.20	+9.0	-29.3
Bituminous ⁴	84.9	-1.4	+77.2	75.8	+5.1	+271.4	24.14	+6.7	+109.7
Metalliferous mining.....	69.2	+2.3	+11.9	65.9	+3.8	+21.9	29.73	+1.5	+8.9
Quarrying and nonmetallic mining.....	47.2	+5.7	+3.1	42.9	+12.8	+8.2	22.76	+6.7	+5.0
Crude-petroleum production.....	63.1	-.1	-4.5	59.0	-(3)	-3.7	34.22	+1.1	+9
Public utilities:									
Telephone and telegraph ⁴	77.3	+8	+2.1	98.5	-.2	+3.0	31.27	-1.0	+9
Electric light and power ⁴	90.6	+7	+2.7	104.5	+1.2	+4.6	35.18	+6	+1.8
Street railways and busses ⁴	68.4	+1	-.8	69.3	+2	+6	33.42	+2	+1.4
Trade:									
Wholesale ⁴	88.7	-.7	+1.7	77.2	-.2	+3.2	30.49	+5	+1.4
Retail ⁴	91.2	+1.6	+2.7	83.4	+1.3	+4.4	21.42	-.2	+1.6
Hotels (year round) ⁴ ¹⁰	93.4	+7	-.6	83.1	-.2	+.8	15.45	-1.0	+1.3
Laundries ⁴	99.1	+1.9	+3.7	88.5	+3.3	+5.5	18.29	+1.4	+1.7
Dyeing and cleaning ⁴	108.7	+4.0	+1.6	85.5	+7.4	+3.1	21.67	+3.3	+1.5
Brokerage.....	(3)	+4	-.2	(3)	-.6	+5	37.37	-1.0	+7
Insurance.....	(3)	+3	+1.2	(3)	+2	+1.5	36.87	-.1	+3
Building construction.....	(3)	+13.6	+5.4	(3)	+19.5	+7.0	31.99	+5.2	+1.4

¹ Revised indexes—Adjusted to 1937 Census of Manufactures.

² Preliminary. Source—Interstate Commerce Commission.

³ Not available.

⁴ Indexes adjusted to 1935 Census. Comparable series back to January 1929 presented in January 1938 issue of the pamphlet, *Employment and Pay Rolls*.

⁵ Less than 1/10 of 1 percent.

⁶ Retail-trade indexes adjusted to 1935 Census and public utility indexes to 1937 Census. Not comparable with indexes published in pamphlets prior to January 1940 or in the *Monthly Labor Review* prior to April 1940. Revised series available upon request.

⁷ Average weekly earnings not strictly comparable with figures published in issues of the pamphlet dated earlier than January 1938, or the *Monthly Labor Review* dated earlier than April 1938 (except for the January figures appearing in the March issue), as they now exclude corporation officers, executives, and other employees whose duties are mainly supervisory.

⁸ Covers street railways and trolley and motorbus operations of subsidiary, affiliated, and successor companies.

⁹ Indexes adjusted to 1933 Census. Comparable series in November 1934 and subsequent issues of pamphlet or February 1935 and subsequent issues of *Monthly Labor Review*.

¹⁰ Cash payments only; the additional value of board, room, and tips cannot be computed.

Of the 14 nonmanufacturing industries for which man-hours are available, 10 showed gains in average hours worked per week and 11 showed gains in average hourly earnings. Eleven of the 16 non-manufacturing industries surveyed reported gains in weekly earnings.

Employment and pay-roll indexes and average weekly earnings for May 1940 are given in table 1 for all manufacturing industries combined, for selected nonmanufacturing industries, and for class I railroads. Percentage changes over the month and year intervals are also given.

Public Employment

A decrease of 1,000 in the number of workers employed during the month ending May 15, on construction projects financed by the Public Works Administration, was caused by the completion of a number of projects. Approximately 98,000 men were working on these projects during the month but, in spite of the decrease, pay-roll disbursements of \$9,943,000 were \$25,000 more than in the preceding month.

Contractors on low-rent projects of the United States Housing Authority employed an additional 5,000 building-trades workers during the month ending May 15, bringing the number of persons at work to 44,000. Wage payments of \$4,618,000 were \$783,000 greater than in April.

Seasonal increases on public road building construction and on dredging, dike, and revetment projects, together with a sizeable gain on naval vessel construction in the month ending May 15, resulted in an employment increase of 27,000 on construction projects financed from regular Federal appropriations. Approximately 276,000 workers were employed on all projects financed from regular funds. Pay-roll disbursements of \$30,178,000 were \$3,202,000 more than in April.

Construction projects financed by the Reconstruction Finance Corporation furnished employment to 1,900 workers in the month ending May 15, a reduction of about 200 from the preceding month. Pay-roll disbursements for the month amounted to \$234,000.

Because of increasing employment in other fields and the necessity of striking a balance between the relief program and available funds, employment on work-relief projects of the Work Projects Administration was again curtailed in May. The number of persons employed on these projects in May was 1,838,000, a decrease of 173,000 from April. Pay-roll disbursements of \$110,141,000 were \$6,004,000 less than in April. Employment on Federal agency projects financed by the Work Projects Administration increased from 99,000 in April to 101,000 in May.

The out-of-school work program of the National Youth Administration employed 300,000 persons in May, a decrease of 22,000 from

April. Over the same period, the number of students on the rolls of the student work program decreased from 482,000 to 478,000.

Employment in camps of the Civilian Conservation Corps showed a decrease of 2,000 in May. Of the 312,100 on the pay roll, 273,900 were enrollees; 1,550, educational advisers; 250, nurses; and 36,400, supervisory and technical employees.

TABLE 2.—Summary of Federal Employment and Pay Rolls, May and April 1940¹
(Preliminary Figures)

Class	Employment			Pay rolls		
	May	April	Per-centage change	May	April	Per-centage change
Federal services:						
Executive ²	977,990	959,146	+2.0	\$149,205,295	\$144,837,840	+3.0
Judicial.....	2,499	2,480	+8	604,457	596,074	+1.4
Legislative.....	5,851	5,882	—5	1,303,465	1,305,782	—2
Military.....	464,111	460,969	+7	33,404,769	32,164,921	+3.9
Construction projects:						
Financed by P. W. A. ³	97,621	99,126	—1.5	9,942,607	9,918,076	+2
U. S. H. A. low-rent housing.....	44,390	38,881	+14.2	4,617,858	3,834,716	+20.4
Financed by R. F. C. ⁴	1,864	2,051	—9.1	234,089	248,607	—5.8
Financed by regular Federal appropriations.....	276,098	248,824	+11.0	30,177,734	26,975,937	+11.9
Federal agency projects financed by Work Projects Administration.....	101,015	99,484	+1.5	4,787,293	4,704,767	+1.8
Projects operated by W. P. A.	1,837,854	2,010,598	—8.6	110,140,815	116,145,146	—5.2
National Youth Administration:						
Out-of-school program.....	300,105	322,275	—6.9	5,593,894	5,933,159	—5.7
Student work program.....	477,810	481,809	—8	3,488,029	3,375,847	+1.8
Civilian Conservation Corps.....	312,094	314,394	—7	14,003,437	14,021,505	—1

¹ Includes data on projects financed wholly or partially from Federal funds.

² Includes force-account and supervisory and technical employees shown under other classifications to the extent of 127,176 employees and pay-roll disbursements of \$17,243,929 for May 1940, and 123,622 employees and pay-roll disbursements of \$16,545,883 for April 1940.

³ Data covering PWA projects financed from National Industrial Recovery Act funds, Emergency Relief Appropriation Acts of 1935, 1936, and 1937 funds, and Public Works Administration Appropriation Act of 1938 funds are included. These data are not shown under projects financed by the Work Projects Administration. Includes 7,735 wage earners and \$767,603 pay roll for May 1940; 7,875 wage earners and \$739,269 pay roll for April 1940, covering Public Works Administration projects financed from Emergency Relief Appropriation Acts of 1935, 1936, and 1937 funds. Includes 86,968 wage earners and \$8,848,178 pay roll for May 1940; 87,252 wage earners and \$8,734,152 pay roll for April 1940, covering Public Works Administration projects financed from funds provided by the Public Works Administration Appropriation Act of 1938.

⁴ Includes 862 employees and pay-roll disbursements of \$135,048 for May 1940; 897 employees and pay-roll disbursements of \$133,990 for April 1940 on projects financed by the RFC Mortgage Co.

In the regular services of the Federal Government increases were reported in the executive, judicial, and military services, while a decrease was reported in the legislative service. Of the 978,000 employees in the executive service, 131,000 were working in the District of Columbia and 847,000 outside the District. Force-account employees (employees on the pay roll of the United States Government who are engaged on construction projects, and whose period of employment terminates as the project is completed) were 9 percent of the total number of employees in the executive service. In the executive service, employment increases were reported in the War, Navy, and Post Office Departments, the Department of the Interior, and the Department of Agriculture, while a slight decrease was reported in the Treasury Department.

The seasonal increase of activity on State-financed road projects in May resulted in 30,000 additional jobs. Of the 175,000 on the pay roll, 49,000 were engaged in the construction of new roads and 126,000 on maintenance. Pay rolls for both types of road work were \$12,920,000.

A summary of Federal employment and pay-roll data for May is given in table 2.



DETAILED REPORTS FOR APRIL 1940

A MONTHLY report on employment and pay rolls is published as a separate pamphlet by the Bureau of Labor Statistics. This gives detailed data regarding employment, pay rolls, working hours, and earnings for the current month for industrial and business establishments and for the various forms of public employment. This pamphlet is distributed free upon request. Its principal contents for the month of April 1940, insofar as industrial and business employment is concerned, are reproduced in this section of the Monthly Labor Review.

Industrial and Business Employment

Monthly reports on employment and pay rolls are available for 90 manufacturing industries; 16 nonmanufacturing industries, including private building construction; and class I steam railroads. The reports for the first 2 of these groups—manufacturing and nonmanufacturing—are based on sample surveys by the Bureau of Labor Statistics. The figures on class I steam railroads are compiled by the Interstate Commerce Commission and are presented in the foregoing summary.

The indexes of factory employment and pay rolls are based on the 3-year average 1923–25 as 100 and are adjusted to 1937 census data. They relate to wage earners only and are computed from reports supplied by representative manufacturing establishments in 90 manufacturing industries. These reports cover more than 55 percent of the total wage earners in all manufacturing industries of the country and more than 65 percent of the wage earners in the 90 industries included in the monthly survey of the Bureau of Labor Statistics.

The indexes for the nonmanufacturing industries are based on the 12-month average for 1929 as 100. Figures for mining, laundries, and dyeing and cleaning cover wage earners only, but the figures for public utilities, trade, and hotels relate to all employees except corporation officers, executives, and other employees whose duties are mainly supervisory. For crude-petroleum production they cover wage earners and the clerical field force. The coverage of the reporting samples for the various nonmanufacturing industries ranges from

approximately 25 percent for wholesale and retail trade, dyeing and cleaning, and insurance, to approximately 80 percent for quarrying and nonmetallic mining, anthracite mining, and public utilities.

The indexes for retail trade have been adjusted to conform in general with the 1935 census of retail distribution and to allow for weighting by lines of trade. For the public utilities they have been adjusted to the 1937 census of electrical industries, for wholesale trade to the 1933 census, and for coal mining, year-round hotels, laundries, and dyeing and cleaning to the 1935 censuses.

Data for both manufacturing and nonmanufacturing industries are based on reports of the number of employees and amount of pay rolls for the pay period ending nearest the 15th of the month.

The average weekly earnings shown in table 1 are computed by dividing the total weekly pay rolls in the reporting establishments by the total number of full- and part-time employees reported. As not all reporting establishments supply man-hours, average hours worked per week, and average hourly earnings are necessarily based on data furnished by a smaller number of reporting firms. The size and composition of the reporting sample vary slightly from month to month. Therefore, the average hours per week, average hourly earnings, and average weekly earnings shown may not be strictly comparable from month to month. The sample, however, is believed to be sufficiently adequate in virtually all instances to indicate the general movements of earnings and hours over the period shown. The changes from the preceding month, expressed as percentages, are based on identical lists of firms for the 2 months, but the changes from April 1939 are computed from chain indexes based on the month-to-month percentage changes.

EMPLOYMENT AND PAY-ROLL INDEXES, AVERAGE HOURS, AND AVERAGE EARNINGS

The employment and pay-roll indexes, as well as average hours worked per week, average hourly earnings, and average weekly earnings for February, March, and April 1940, where available, are presented in table 1. The February and March figures, where given, may differ in some instances from those previously published because of revisions necessitated primarily by the inclusion of late reports.

In table 2, indexes of employment and pay rolls are given for all manufacturing industries combined for the durable- and nondurable-goods groups of manufacturing industries, and for each of the 13 nonmanufacturing industries, by months, from April 1939 to April 1940, inclusive. The chart on page 214 indicates the trend of factory employment and pay rolls from January 1919 to April 1940.

TABLE 1.—Employment, Pay Rolls, Hours, and Earnings in Manufacturing and Nonmanufacturing Industries

MANUFACTURING

[Indexes are based on 3-year average, 1923-25=100, and are adjusted to 1937 Census of Manufactures for all industries except automobiles. Not comparable to indexes published in pamphlets prior to August 1939. Comparable series available upon request]

Industry	Employment index			Pay-roll index			Average weekly earnings ¹			Average hours worked per week ¹			Average hourly earnings ¹		
	April 1940	March 1940	February 1940	April 1940	March 1940	February 1940	April 1940	March 1940	February 1940	April 1940	March 1940	February 1940	April 1940	March 1940	February 1940
All manufacturing	99.6	100.8	101.4	94.3	98.2	97.8	\$25.33	\$25.46	\$25.20	37.2	37.5	37.3	66.5	66.5	66.3
Durable goods.....	96.0	96.4	96.6	97.2	97.6	96.7	28.92	28.90	28.60	38.2	38.3	37.9	72.9	72.8	72.6
Nondurable goods.....	103.0	105.0	106.1	95.3	98.9	99.1	21.49	21.86	21.73	36.2	36.9	36.8	60.9	61.0	60.8
Durable goods															
Iron and steel and their products, not including machinery	101.7	103.5	106.7	94.9	96.5	100.9	37.50	37.47	37.95	36.0	36.1	36.5	76.4	76.3	76.4
Blast furnaces, steel works, and rolling mills.....	108.4	111.5	117.4	98.6	101.8	110.2	28.73	28.88	29.09	34.4	34.7	35.4	83.8	83.8	83.8
Bolts, nuts, washers and rivets.....	108.7	111.5	114.3	113.9	117.3	125.8	25.31	25.40	26.54	37.0	37.2	39.0	68.4	68.3	68.2
Cast-iron pipe.....	74.5	75.1	75.6	62.2	59.8	67.6	19.96	18.98	21.30	33.0	31.4	35.5	60.1	59.9	59.5
Cutlery (not including silver and plated cutlery) and edge tools.....	103.8	102.9	104.0	93.5	90.6	90.6	23.47	22.92	22.74	38.9	38.5	38.3	61.4	60.6	60.5
Forgings, iron and steel.....	66.8	68.4	71.9	75.1	77.4	84.1	30.60	30.79	31.86	39.3	39.7	40.8	78.0	77.6	78.2
Hardware.....	98.1	98.8	101.3	104.0	104.7	100.9	26.13	26.15	24.65	38.1	38.4	36.8	69.0	68.5	67.1
Plumbers' supplies.....	81.8	81.8	81.9	72.3	70.8	70.7	25.78	25.18	25.15	36.9	36.4	36.5	70.0	69.2	69.0
Stamped and enameled ware.....	159.6	160.8	161.4	163.5	163.6	161.6	24.37	24.10	23.99	38.0	37.8	37.7	63.4	63.2	62.6
Steam and hot-water heating apparatus and steam fittings.....	84.6	85.0	84.4	75.6	75.0	75.6	27.36	27.04	27.45	38.5	38.3	38.9	71.2	70.6	70.6
Stoves.....	90.8	89.5	86.0	82.3	79.6	74.5	25.95	25.40	24.71	37.9	37.6	36.8	68.4	67.4	67.4
Structural and ornamental metal work.....	70.0	70.3	71.6	61.2	59.5	60.3	28.42	27.39	27.27	38.6	37.3	37.3	73.7	73.5	73.2
Tin cans and other tinware.....	94.8	93.7	92.7	101.1	99.6	93.0	24.24	24.15	22.82	38.9	38.7	36.8	62.1	62.6	62.0
Tools (not including edge tools, machine tools, files, and saws).....	93.5	94.6	96.2	91.0	92.6	96.4	24.57	24.74	25.37	39.3	39.8	40.7	62.6	62.4	62.6
Wirework.....	161.5	162.5	162.0	174.8	179.9	175.3	29.89	27.51	26.93	38.0	39.1	38.4	71.1	70.6	70.2
Machinery, not including transportation equipment	113.5	113.1	113.1	121.5	121.5	119.3	29.97	30.15	29.87	40.5	40.7	40.1	73.9	73.9	73.7
Agricultural implements (including tractors).....	141.4	143.6	141.1	166.1	167.9	163.8	31.43	31.37	31.14	39.3	39.5	39.2	80.1	79.7	79.7
Cash registers, adding machines, and calculating machines.....	129.0	128.2	127.9	133.9	133.9	130.5	32.75	32.94	32.17	39.9	40.1	39.1	82.4	82.4	82.5
Electrical machinery, apparatus, and supplies.....	101.5	101.7	101.6	112.7	113.8	111.6	29.70	29.98	29.53	39.4	39.8	39.3	75.6	75.5	75.3
Engines, turbines, water wheels, and windmills.....	140.2	134.5	133.0	183.1	175.7	171.6	34.35	34.43	34.09	42.9	42.9	42.1	80.3	80.7	81.3
Foundry and machine-shop products.....	97.2	97.2	97.6	95.4	95.7	94.2	29.27	29.39	28.89	40.3	40.5	39.9	72.6	72.5	72.3
Machine tools.....	216.0	211.0	204.8	285.5	281.6	270.7	36.62	36.99	36.60	47.9	48.3	47.8	76.6	76.7	76.6

Radios and phonographs.....	128.3	121.7	126.3	116.0	109.5	113.0	22.46	22.30	22.19	36.8	36.4	36.6	61.1	61.4	60.6
Textile machinery and parts.....	84.9	85.8	85.9	80.1	81.9	81.4	26.01	26.23	25.97	40.1	40.3	39.9	65.2	65.2	65.2
Typewriters and parts.....	114.4	115.2	117.5	112.2	111.4	110.0	24.96	23.72	22.96	37.2	36.6	35.6	64.7	64.7	64.4
Transportation equipment.....	115.4	117.0	114.8	122.6	124.3	118.6	34.40	34.96	33.47	38.3	38.4	37.6	90.2	90.0	89.6
Aircraft.....	2,166.0	2,096.2	2,041.5	2,062.7	2,010.8	1,881.2	29.75	29.39	28.73	41.4	42.1	41.1	73.3	73.4	73.0
Automobiles.....	112.0	114.4	113.1	121.2	122.9	119.1	35.78	35.53	34.80	37.9	37.7	37.1	94.5	94.4	93.8
Cars, electric- and steam-railroad.....	57.4	61.1	59.0	52.0	58.3	54.3	28.36	29.92	28.83	37.4	39.4	39.1	75.7	75.9	73.8
Locomotives.....	28.0	28.4	28.9	26.1	26.0	27.2	28.61	28.08	28.93	36.7	36.3	37.4	77.9	77.4	77.3
Shipbuilding.....	152.8	150.7	142.7	169.4	169.3	149.9	33.25	33.68	31.53	38.5	39.0	37.1	85.9	86.0	85.7
Nonferrous metals and their products.....	105.4	107.1	107.2	102.9	104.8	103.4	26.76	26.96	26.65	38.6	38.9	38.4	70.0	69.7	69.6
Aluminum manufactures.....	171.5	171.3	171.3	190.3	196.3	194.8	28.31	27.91	27.72	39.8	39.6	39.2	71.1	70.5	70.2
Brass, bronze, and copper products.....	125.5	128.7	128.3	132.4	137.2	136.4	28.58	29.01	28.96	38.6	39.0	39.4	74.8	74.8	74.3
Clocks and watches and time-recording devices.....	89.4	90.9	91.2	91.7	94.8	94.5	22.74	23.14	22.96	38.0	38.8	38.5	59.9	59.6	59.6
Jewelry.....	90.0	92.4	91.1	72.2	75.3	69.2	22.44	22.87	21.30	37.0	38.2	35.5	59.9	59.0	58.6
Lighting equipment.....	85.9	86.0	88.0	74.2	74.2	70.8	27.59	27.55	25.68	38.1	38.5	36.5	72.2	71.5	70.5
Silverware and plated ware.....	70.2	70.2	70.8	62.9	60.3	59.4	26.00	24.90	24.29	39.9	38.7	38.1	65.3	64.1	63.7
Smelting and refining—copper, lead and zinc.....	85.9	86.7	87.0	84.4	84.8	85.9	27.59	27.44	27.75	39.0	38.8	38.8	70.8	70.7	71.5
Lumber and allied products.....	86.9	86.8	86.7	81.4	81.0	80.0	20.00	19.91	19.69	38.4	38.4	38.0	51.8	51.5	51.3
Furniture.....	86.4	88.7	89.0	74.2	77.7	76.8	20.70	21.15	20.91	38.3	39.2	39.2	54.6	54.7	53.9
Lumber:.....	60.9	60.7	60.7	47.6	47.1	47.0	21.84	21.59	21.58	40.0	39.9	39.7	54.7	54.3	54.4
Millwork.....	60.3	59.5	59.1	55.4	53.3	52.0	18.93	18.49	18.19	38.1	37.6	37.0	49.7	49.2	49.1
Sawmills.....	80.5	77.7	75.5	72.2	68.3	65.3	34.49	24.03	23.71	36.5	35.7	35.3	68.4	66.4	66.2
Stone, clay, and glass products.....	58.0	54.4	52.9	45.2	41.5	39.6	19.97	19.55	19.30	36.1	35.0	34.6	55.1	55.3	55.4
Brick, tile, and terra cotta.....	67.7	59.4	55.4	63.6	54.1	48.1	23.68	25.81	24.63	38.1	36.7	35.0	70.0	70.3	70.4
Cement.....	105.3	106.2	102.5	114.2	112.8	108.3	26.49	26.02	25.89	36.0	35.2	35.2	73.9	74.1	73.8
Glass.....	45.6	42.9	42.6	34.6	29.6	29.1	26.98	24.24	23.96	36.9	34.3	34.0	73.0	70.8	71.0
Marble, granite, slate, and other products.....	93.0	93.1	92.9	85.1	85.3	84.3	23.28	23.26	23.03	37.1	37.6	37.5	63.9	63.7	62.9
Pottery.....	98.8	102.9	105.5	81.4	89.4	91.3	16.74	17.45	17.48	34.2	35.1	35.1	49.5	50.5	50.5
Textiles and their products*.....	88.3	90.6	95.5	75.2	78.4	84.2	16.40	16.62	16.98	34.5	35.1	35.7	48.2	48.4	48.4
Fabrics.....	79.5	80.1	82.2	67.8	67.4	70.6	23.61	23.30	23.76	35.5	35.2	36.0	66.6	66.3	66.0
Carpets and rugs.....	90.8	92.1	95.5	80.6	82.8	87.4	14.89	14.92	14.92	35.0	35.6	36.2	41.0	41.0	41.1
Cotton goods.....	79.0	81.1	84.8	73.4	75.5	75.2	18.05	18.17	17.23	37.4	38.0	36.2	49.0	48.5	48.5
Cotton small wares.....	125.4	128.1	130.1	104.7	108.7	109.2	20.28	20.62	20.46	36.5	37.5	37.3	55.0	54.6	54.3
Dyeing and finishing textiles.....	65.4	66.5	66.5	56.5	56.5	56.5	16.18	16.18	16.18	22.2	22.3	22.3	71.8	71.4	72.8
Hats, fur-felt.....	139.9	139.9	145.3	143.2	144.6	150.8	18.24	18.42	18.59	33.2	33.9	33.8	55.4	55.0	55.3
Hosiery.....	60.0	65.3	67.9	47.2	53.0	56.6	16.70	17.28	17.83	34.9	35.7	36.8	47.6	47.7	47.8
Knitted underwear.....	77.1	78.6	77.0	68.2	71.7	68.9	14.87	15.37	15.11	35.2	36.6	36.1	42.3	42.3	42.1
Knitted underwear.....	130.5	134.5	135.1	101.4	107.2	107.7	17.46	17.86	17.94	34.5	36.4	36.7	49.0	47.8	47.7
Knitted cloth.....	64.4	66.2	69.0	50.3	52.2	54.2	16.16	16.25	16.17	35.2	35.5	35.6	45.6	45.4	45.1
Silk and rayon goods*.....	66.7	71.4	84.9	53.2	57.2	71.7	18.35	18.42	19.47	32.5	32.6	34.4	56.5	56.7	56.6
Woolen and worsted goods.....															

See footnotes at end of table.

TABLE 1.—Employment, Pay Rolls, Hours, and Earnings in Manufacturing and Nonmanufacturing Industries—Continued

Industry	Employment index			Pay-roll index			Average weekly earnings			Average hours worked per week			Average hourly earnings		
	April 1940	March 1940	February 1940	April 1940	March 1940	February 1940	April 1940	March 1940	February 1940	April 1940	March 1940	February 1940	April 1940	March 1940	February 1940
<i>Nondurable goods—Continued</i>															
Textiles and their products*—Continued															
Wearing apparel.....	118.6	126.6	123.7	88.7	105.7	99.8	\$17.63	\$19.54	\$18.86	33.6	35.2	34.0	51.9	54.3	54.4
Clothing, men's.....	103.5	111.9	110.2	72.0	88.3	85.9	18.11	20.43	20.18	31.6	34.3	34.0	57.4	58.8	58.7
Clothing, women's.....	168.1	181.2	176.2	118.7	141.6	134.4	19.04	21.07	20.46	34.3	35.1	33.4	50.8	54.7	55.5
Corsets and allied garments.....	115.4	116.1	115.5	120.2	119.7	118.1	17.20	16.99	16.86	36.0	36.0	35.7	46.8	46.4	46.8
Men's furnishings.....	117.8	124.3	120.9	101.0	116.5	112.6	13.34	14.54	14.43	33.5	35.3	34.0	39.5	40.1	41.4
Millinery.....	87.3	96.8	89.5	73.8	103.2	77.2	24.28	30.59	24.92	35.0	39.5	35.0	67.2	70.9	66.3
Shirts and collars.....	123.2	125.8	125.0	111.2	113.0	108.3	14.14	14.34	13.86	35.3	36.0	35.0	40.4	40.3	40.2
Leather and its manufactures															
Boots and shoes.....	94.3	98.2	99.3	70.7	80.3	82.6	17.68	19.23	19.61	32.5	35.6	36.7	54.3	54.1	53.7
Leather.....	93.1	97.7	98.3	66.6	78.2	80.2	16.30	18.20	18.59	31.5	35.2	36.6	52.1	51.9	51.4
	82.7	84.0	86.6	78.2	80.4	83.3	23.63	23.83	23.96	36.9	37.3	37.4	64.2	63.8	63.9
Food and kindred products															
Baking.....	119.7	118.8	118.8	117.6	117.1	115.5	25.17	25.25	25.00	39.4	39.8	39.4	64.3	64.1	63.9
Beverages.....	142.5	143.1	142.3	134.3	134.4	132.4	26.22	26.12	25.84	41.4	41.6	41.2	63.6	63.0	63.1
Butter.....	268.2	261.4	254.4	311.8	299.9	283.9	34.00	33.53	32.69	39.0	38.4	37.6	88.0	88.2	87.8
Canning and preserving.....	93.7	90.0	88.6	80.4	77.5	75.7	22.76	22.86	22.78	46.6	46.6	45.7	48.7	48.9	49.6
	103.4	88.1	91.5	83.2	76.2	78.0	15.64	16.88	16.69	31.6	34.8	34.6	50.5	49.5	49.5
Confectionery.....	77.0	81.9	84.0	74.0	77.4	80.6	18.83	18.47	18.74	36.8	36.8	37.7	51.1	50.2	50.1
Flour.....	78.2	79.4	79.3	71.5	73.3	73.7	24.79	25.01	25.14	40.6	40.7	41.0	60.8	61.1	60.9
Ice cream.....	74.7	70.2	66.8	63.0	59.9	57.1	29.30	29.68	29.73	45.6	45.4	45.0	64.8	65.2	65.2
Slaughtering and meat packing.....	103.6	107.4	108.6	109.5	111.5	110.9	27.76	27.26	26.88	40.3	40.0	39.5	68.9	68.1	68.0
Sugar, beet.....	44.1	39.6	37.9	48.2	45.3	44.3	28.38	29.74	30.41	39.4	39.8	40.3	74.3	77.3	77.6
Sugar refining, cane.....	94.0	95.7	92.0	77.0	78.9	76.6	23.05	23.18	23.41	36.5	36.6	36.1	63.1	63.4	64.8
Tobacco manufactures															
Chewing and smoking tobacco and snuff.....	63.8	63.6	61.7	58.7	58.1	54.0	17.07	16.88	16.25	34.7	34.5	32.8	49.3	49.0	49.1
Cigars and cigarettes.....	58.5	60.5	62.1	64.2	66.9	69.3	17.78	17.90	18.05	33.5	34.3	34.6	53.1	52.3	52.2
	64.3	63.9	61.5	58.0	56.9	52.0	16.91	16.64	15.80	34.8	34.6	32.5	48.8	48.5	48.7
Paper and printing															
Boxes, paper.....	113.8	114.4	114.6	109.7	110.0	108.6	28.70	28.87	28.37	38.1	38.0	37.8	79.6	78.9	78.3
Paper and pulp.....	113.0	114.2	114.8	120.7	121.6	119.4	21.25	21.16	20.75	37.9	38.1	37.3	59.5	55.8	55.7
Printing and publishing.....	112.0	112.6	113.0	115.4	115.1	116.9	25.35	25.17	25.42	39.9	39.5	39.8	63.7	63.7	63.8
Book and job.....	99.5	99.8	101.2	87.4	88.2	87.0	30.73	30.85	30.05	38.2	38.4	37.9	81.6	81.7	80.4
Newspapers and periodicals.....	116.5	117.0	115.4	110.9	110.9	107.5	38.27	38.19	37.59	36.2	36.0	35.9	102.9	102.3	101.8

Chemical, petroleum, and coal products	122.4	122.7	121.0	133.4	132.5	131.4	28.99	29.14	29.31	38.5	38.4	38.4	74.2	74.6	75.6
Petroleum refining	121.1	121.3	120.9	136.9	135.8	134.4	35.34	34.78	34.78	36.5	36.2	35.9	97.1	97.5	97.5
Other than petroleum refining	124.0	123.1	121.1	132.3	131.5	130.4	26.51	26.86	27.24	39.2	39.2	39.2	67.0	68.1	68.1
Chemicals	135.2	135.6	136.1	159.6	159.3	159.7	31.97	31.82	31.79	39.8	39.7	39.6	80.1	80.0	80.3
Cottonseed—oil, cake, and meal	81.7	89.2	97.7	69.1	79.9	89.1	13.54	14.27	14.55	40.1	42.1	42.7	33.1	33.4	33.4
Druggists' preparations	118.7	118.7	119.4	130.5	131.2	130.4	24.88	25.09	24.74	39.4	40.0	39.4	60.5	60.3	60.0
Explosives	114.0	107.8	105.5	133.1	128.8	127.5	31.99	32.80	33.16	38.4	39.1	39.4	83.3	83.9	84.2
Fertilizers	174.8	151.8	109.3	136.2	112.7	83.7	13.81	13.52	13.81	36.4	35.3	34.2	37.9	38.4	40.4
Paints and varnishes	124.4	123.5	123.2	131.9	130.5	128.3	29.02	28.93	28.43	40.6	40.4	39.6	71.7	71.8	71.9
Rayon and allied products	305.8	309.0	313.3	311.1	316.0	321.3	26.12	26.26	26.33	38.9	39.1	39.1	67.2	67.2	67.4
Soap	81.2	82.7	84.4	98.0	99.5	100.3	28.27	28.08	27.81	39.4	39.2	39.1	71.7	71.7	71.1
Rubber products	84.8	87.3	88.0	86.5	88.2	88.3	27.98	27.66	27.40	36.0	35.8	35.3	77.9	77.7	77.7
Rubber boots and shoes	56.1	55.9	56.8	55.3	55.8	53.4	22.66	22.90	21.55	37.0	37.2	35.5	61.3	61.6	60.6
Rubber tires and inner tubes	69.7	72.3	73.0	78.1	79.0	80.6	32.77	31.98	32.29	34.1	33.5	33.7	96.6	96.3	96.4
Rubber goods, other	139.7	144.2	145.3	132.6	137.5	135.2	23.11	23.22	22.69	37.8	38.0	37.2	61.9	61.8	61.6

NONMANUFACTURING

Coal mining:	51.6	52.6	52.0	36.3	38.4	32.9	\$23.11	\$24.03	\$20.76	26.2	26.3	22.2	90.6	91.7	91.6
Anthracite ¹	86.0	89.7	91.7	71.4	78.3	87.0	22.42	23.57	25.73	25.3	26.5	29.2	88.1	88.4	87.8
Bituminous ²	67.6	66.2	66.3	63.1	63.2	64.2	29.23	29.88	30.35	40.4	41.2	41.3	72.7	73.0	73.9
Metalliferous mining	44.8	41.0	38.3	38.5	34.1	30.8	21.34	20.67	20.02	38.3	36.9	35.6	55.9	56.0	56.2
Quarrying and nonmetallic mining	63.2	63.2	63.0	58.6	58.4	59.0	34.16	34.02	34.51	38.0	37.8	38.2	88.2	88.4	88.3
Crude-petroleum production	76.5	76.0	75.9	99.3	98.1	96.9	31.90	31.73	31.34	39.7	39.4	39.1	80.8	81.1	80.8
Public utilities:	90.3	89.3	89.2	103.7	102.3	102.2	35.04	34.96	34.93	39.8	39.9	39.9	88.1	87.6	87.4
Telephone and telegraph ⁴	65.5	68.2	68.7	69.3	69.5	71.5	33.40	33.60	34.35	45.8	46.3	47.0	72.0	71.8	71.9
Electric light and power ⁴															
Street railways and busses ⁴															

See footnotes at end of table.

TABLE 1.—Employment, Pay Rolls, Hours, and Earnings in Manufacturing and Nonmanufacturing Industries—Continued

NONMANUFACTURING—Continued

[Indexes are based on 12-month average, 1929=100]

Industry	Employment index			Pay-roll index			Average weekly earnings			Average hours worked per week			Average hourly earnings		
	April 1940	March 1940	February 1940	April 1940	March 1940	February 1940	April 1940	March 1940	February 1940	April 1940	March 1940	February 1940	April 1940	March 1940	February 1940
Trade:															
Wholesale ¹	80.0	90.5	90.2	77.2	77.8	77.1	\$30.32	\$30.08	\$29.68	41.3	41.2	40.9	73.7	73.1	72.6
Retail ¹	90.0	91.1	87.0	82.3	82.0	79.1	21.41	21.02	21.46	42.9	42.6	42.9	54.5	54.0	54.3
Food ¹	103.4	103.8	103.1	94.2	94.4	94.1	23.37	23.33	23.49	43.3	43.3	43.3	52.4	52.3	52.4
General merchandising ¹	93.0	96.4	87.9	84.9	85.9	80.8	18.01	17.62	18.12	38.8	38.4	38.9	46.3	45.7	46.3
Apparel ¹	86.9	92.6	75.5	77.8	79.3	69.3	20.74	19.89	21.48	38.0	36.5	38.9	54.6	53.8	54.8
Furniture ¹	77.1	76.6	76.3	67.3	66.3	65.6	28.19	28.00	27.92	44.3	44.3	44.0	67.0	65.4	66.5
Automotive ¹	84.9	82.5	81.5	82.7	78.0	74.1	29.12	28.33	27.20	47.9	47.8	47.3	60.2	59.0	57.1
Lumber ¹	72.4	70.4	69.4	68.0	65.7	64.5	26.22	26.06	25.94	42.6	42.3	41.9	62.9	63.0	63.3
Hotels (year-round) ¹	92.6	92.0	92.1	83.0	81.8	82.7	15.56	15.44	15.55	46.4	46.2	46.4	33.5	32.9	33.2
Laundries ¹	97.3	96.2	95.8	85.7	84.1	83.1	18.01	17.87	17.74	43.1	43.0	43.0	41.9	41.7	41.3
Dyeing and cleaning ¹	104.8	99.5	93.7	80.1	72.7	64.4	21.03	20.10	18.83	43.5	42.4	40.4	49.3	48.8	48.5
Brokerage ¹	—4	-1.0	-1.3	+1.8	-2.4	-1.3	37.75	36.95	37.07	(10)	(10)	(10)	(10)	(10)	(10)
Insurance ¹	+1.1	+2.2	—	—	+1.6	-2.2	36.55	36.79	36.44	(10)	(10)	(10)	(10)	(10)	(10)
Building construction ¹	+11.7	+3.0	+6	+13.3	+6.3	-1.8	30.32	29.89	28.93	31.7	30.9	30.2	95.8	97.0	96.2

¹ Revised series of employment and pay-roll indexes. Figures for earlier months available on request.

² Revised series. Mimeographed sheets, giving averages by years, 1932 to 1938, inclusive, and by months, January 1938 to September 1939, inclusive, available on request. Average hours and average hourly earnings are computed from data supplied by a smaller number of establishments than average weekly earnings, as not all reporting firms furnish man-hours. The figures are not strictly comparable from month to month because of changes in the size and composition of the reporting sample.

³ Average weekly earnings, average weekly hours, and average hourly earnings not comparable to previously published averages because of changes in reporting sample. Comparable January average weekly earnings \$20.77; average weekly hours 34.7; average hourly earnings 59.4 cents.

⁴ Indexes adjusted to 1935 census. Comparable series back to January 1929 presented in January 1938 issue of pamphlet.

⁵ Average weekly earnings, hourly earnings, and hours not comparable with figures

published in pamphlets prior to January 1938 as they now exclude corporation officers, executives, and other employees whose duties are mainly supervisory.

⁶ Retail-trade indexes adjusted to 1935 census and public-utility indexes to 1937 census. Not comparable to indexes published in pamphlets prior to January 1940 or in Monthly Labor Reviews prior to April 1940.

⁷ Covers street railway, and trolley and motorbus operations of subsidiary, affiliated, and successor companies; formerly "electric-railroad and motorbus operation and maintenance."

⁸ Indexes adjusted to 1933 census. Comparable series in November 1934 and subsequent issues of pamphlet.

⁹ Cash payments only; additional value of board, room, and tips not included.

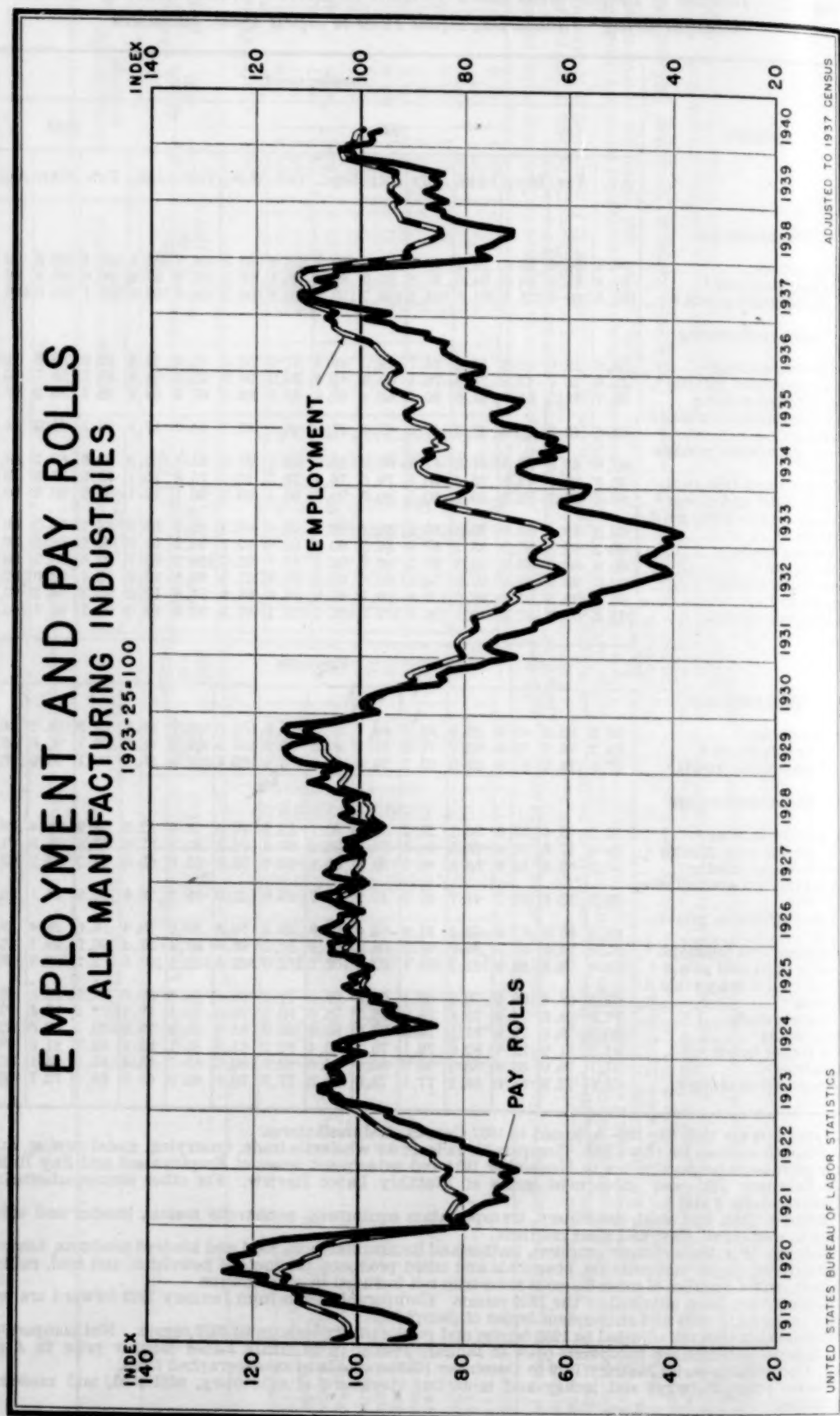
¹⁰ Indexes of employment and pay rolls are not available; percentage changes from preceding month substituted.

¹¹ Not available.

TABLE 2.—*Indexes of Employment and Pay Rolls in Selected Manufacturing¹ and Non-manufacturing² Industries, April 1939 to April 1940, Inclusive*

Industry	Employment													
	1939										1940			
	Av.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
<i>Manufacturing</i>														
All industries.....	96.8	94.1	93.0	93.4	93.5	96.3	100.2	103.6	103.8	104.1	101.4	101.4	100.8	99.6
Durable goods ³	87.8	84.8	84.0	84.6	83.0	83.9	89.8	96.1	98.2	100.0	97.4	96.6	96.4	96.0
Nondurable goods ⁴	105.5	103.0	101.6	101.8	103.5	108.1	110.2	110.8	109.2	108.0	105.3	106.1	105.0	103.0
<i>Nonmanufacturing</i>														
Anthracite mining ⁵	50.6	53.0	52.6	51.2	44.7	48.5	49.4	51.9	51.3	51.0	51.5	52.0	52.6	51.6
Bituminous coal mining ⁵	78.6	25.9	47.9	78.3	79.4	81.4	85.4	93.0	94.9	92.6	91.8	91.7	89.7	86.0
Metalliferous mining.....	62.7	61.5	61.9	61.6	60.4	60.4	62.9	65.3	66.5	67.3	66.4	66.3	66.2	67.6
Quarrying and nonmetallic mining.....	44.6	43.0	45.6	47.3	47.5	48.1	47.9	48.0	47.1	44.0	37.8	38.3	41.0	44.8
Crude petroleum production.....	65.8	65.8	66.1	67.0	67.3	66.7	65.0	64.3	63.8	63.8	63.2	63.0	63.2	63.2
Telephone and telegraph ⁶	75.8	75.1	75.8	76.4	76.5	76.6	76.4	76.5	76.1	75.8	76.1	75.9	76.0	76.5
Electric light and power ⁶	89.0	87.7	88.2	89.2	90.0	90.6	90.6	90.4	90.3	90.1	89.1	89.2	89.3	90.3
Street railways and busses ⁷	69.0	68.5	68.9	69.3	69.1	69.2	69.2	69.5	69.3	69.0	68.8	68.7	68.2	68.5
Wholesale trade.....	89.2	87.3	87.2	88.1	87.9	89.0	90.5	92.4	92.1	92.2	90.6	90.2	90.5	89.0
Retail trade ⁸	89.8	88.5	88.8	89.4	87.2	86.3	90.5	91.7	93.3	104.2	87.7	87.0	91.1	90.0
Year-round hotels ⁹	92.0	93.2	93.9	92.8	90.3	89.8	91.3	92.9	91.8	90.8	91.3	92.1	92.0	92.6
Laundries ⁹	95.9	93.5	95.5	98.7	100.0	99.1	97.8	96.0	95.6	95.6	96.0	95.8	96.2	97.3
Dyeing and cleaning ⁹	101.3	102.2	107.0	110.1	106.5	102.7	105.2	105.1	97.8	97.4	94.0	93.7	99.5	104.8
<i>Pay rolls</i>														
<i>Manufacturing</i>														
All industries.....	90.8	85.5	85.0	86.5	84.4	89.7	93.8	101.6	101.6	103.7	98.3	97.8	98.2	96.3
Durable goods ³	85.2	79.5	78.8	80.7	76.0	81.5	87.8	99.6	100.9	104.6	98.2	96.7	97.6	97.2
Nondurable goods ⁴	97.0	92.2	91.9	93.0	93.7	99.0	100.5	103.9	102.4	102.8	98.4	99.1	99.9	95.3
<i>Nonmanufacturing</i>														
Anthracite mining ⁵	39.5	43.4	57.0	36.1	25.2	33.8	40.1	52.2	42.0	26.6	52.5	32.9	38.4	36.3
Bituminous coal mining ⁵	69.9	17.6	20.4	66.5	64.5	74.6	80.2	97.6	96.3	84.3	87.0	87.0	78.3	71.4
Metalliferous mining.....	56.0	52.6	54.1	53.8	48.5	53.0	55.1	63.4	63.9	65.0	63.6	64.2	63.2	63.1
Quarrying and nonmetallic mining.....	38.7	35.9	39.7	41.7	40.9	42.9	42.7	45.6	42.9	39.2	29.6	30.8	34.1	38.5
Crude petroleum production.....	61.0	60.8	61.2	62.5	61.9	62.0	60.8	58.8	59.6	59.2	58.4	59.0	58.4	58.6
Telephone and telegraph ⁶	95.6	94.0	95.7	95.7	96.6	96.3	96.9	97.2	96.4	97.4	97.4	96.9	98.1	99.3
Electric light and power ⁶	100.4	98.3	99.9	101.2	101.1	102.2	102.2	102.0	102.5	102.4	101.6	102.2	102.3	103.7
Street railways and busses ⁷	69.5	68.4	68.9	70.0	69.4	69.8	69.2	71.2	69.4	69.8	69.0	71.5	69.5	69.3
Wholesale trade.....	75.6	74.8	74.9	75.8	75.8	76.2	78.0	80.3	79.0	79.1	77.1	77.1	77.8	77.2
Retail trade ⁸	80.8	79.6	79.9	81.1	79.5	78.0	80.9	83.2	83.6	91.8	79.9	79.1	82.0	82.3
Year-round hotels ⁹	81.2	81.9	82.4	82.0	79.1	79.2	80.4	82.2	81.8	81.1	81.1	82.7	81.8	83.0
Laundries ⁹	83.1	79.9	83.9	86.9	88.0	85.9	84.5	83.9	82.9	83.7	83.4	83.1	84.1	85.7
Dyeing and cleaning ⁹	73.6	73.3	83.0	84.2	77.1	73.0	78.3	77.3	70.5	69.9	65.5	64.4	72.7	80.1

¹ 3-year average 1923-25=100—adjusted to 1937 Census of Manufactures.² 12-month average for 1929=100. Comparable indexes for wholesale trade, quarrying, metal mining, and crude petroleum production are in November 1934 and subsequent issues of Employment and Pay Rolls, or in February 1935 and subsequent issues of Monthly Labor Review. For other nonmanufacturing indexes see notes 5 and 6.³ Includes: Iron and steel, machinery, transportation equipment, nonferrous metals, lumber and allied products, and stone, clay, and glass products.⁴ Includes: Textiles and their products, leather and its manufactures, food and kindred products, tobacco manufactures, paper and printing, chemicals and allied products, products of petroleum and coal, rubber products, and a number of miscellaneous industries not included in other groups.⁵ Indexes have been adjusted to the 1935 census. Comparable series from January 1929 forward are presented in January 1938 and subsequent issues of pamphlet.⁶ Retail trade indexes adjusted to 1935 census and public utility indexes to 1937 census. Not comparable with indexes published in pamphlets prior to January 1940 or in Monthly Labor Review prior to April 1940. Comparable series January 1929 to December 1939 available in mimeographed form.⁷ Covers street railways and trolley and motorbus operations of subsidiary, affiliated, and successor companies.



TREND OF INDUSTRIAL AND BUSINESS EMPLOYMENT, BY STATES

A comparison of employment and pay-rolls, by States and geographic divisions in March and April 1940, is shown in table 3 for all groups combined and for all manufacturing industries combined based on data supplied by reporting establishments. The percentage changes shown, unless otherwise noted, are unweighted—that is, the industries included in the manufacturing group and in the total for all groups have not been weighted according to their relative importance.

The totals for all manufacturing industries combined include figures for miscellaneous manufacturing industries in addition to the 90 manufacturing industries presented in table 1. The totals for all groups combined include all manufacturing industries, each of the nonmanufacturing industries presented in table 1 (except building construction), and seasonal hotels.

Similar comparisons showing only percentage changes are available in mimeographed form for all groups combined, all manufacturing, anthracite mining, bituminous-coal mining, metalliferous mining, quarrying and nonmetallic mining, crude-petroleum production, public utilities, wholesale trade, retail trade, hotels, laundries, dyeing and cleaning, and brokerage and insurance.

TABLE 3.—Comparison of Employment and Pay Rolls in Identical Establishments in March and April 1940, by Geographic Divisions and by States

[Figures in italics are not compiled by the Bureau of Labor Statistics, but are taken from reports issued by cooperating State organizations]

Geographic division and State	Total—all groups					Manufacturing				
	Number of establishments	Number on pay roll April 1940	Percentage change from March 1940	Amount of pay roll (1 week) April 1940	Percentage change from March 1940	Number of establishments	Number on pay roll April 1940	Percentage change from March 1940	Amount of pay roll (1 week) April 1940	Percentage change from March 1940
				<i>Dollars</i>					<i>Dollars</i>	
New England.....	13, 189	885, 885	-1.3	21, 091, 029	-2.1	3, 600	607, 724	-1.8	13, 928, 290	-3.1
Maine.....	866	55, 471	-1.3	1, 151, 017	-1.7	282	45, 216	-1.9	904, 272	-2.4
N. Hampshire..	661	40, 279	-.5	835, 968	-2.4	213	33, 144	-.5	666, 813	-2.9
Vermont.....	501	18, 705	-2.7	440, 282	+ .9	154	11, 716	-4.2	275, 923	+(1)
Massachusetts..	² 7, 519	<i>462, 156</i>	-1.1	<i>11, 021, 679</i>	-2.1	<i>1, 787</i>	<i>266, 123</i>	-2.2	<i>5, 999, 284</i>	-4.0
Rhode Island...	1, 192	92, 096	-3.3	2, 028, 390	-3.8	425	71, 940	-3.8	1, 523, 054	-5.0
Connecticut....	2, 450	217, 178	-.8	5, 613, 693	-1.7	739	179, 585	-.4	4, 558, 944	-1.7
Middle Atlantic...	33, 074	2, 242, 959	-1.5	60, 547, 926	-2.0	8, 949	1, 320, 064	-1.8	35, 215, 365	-3.0
New York.....	20, 024	982, 582	-1.7	27, 588, 579	-2.4	³ 2, 835	<i>472, 165</i>	-2.4	<i>12, 948, 200</i>	-4.7
New Jersey....	4, 033	388, 268	-1.0	10, 585, 254	-1.2	1, 673	311, 419	-1.3	8, 395, 802	-1.5
Pennsylvania...	9, 017	872, 109	-1.5	22, 374, 093	-1.9	2, 441	536, 480	-1.6	13, 871, 363	-1.9
East North Central..	28, 161	2, 270, 555	-1.1	64, 366, 870	-.9	8, 360	1, 687, 490	-1.3	49, 367, 296	-1.2
Ohio.....	7, 769	575, 568	-1.2	15, 805, 214	-1.5	2, 363	429, 622	-1.3	12, 111, 689	-2.1
Indiana.....	2, 989	269, 172	-1.3	7, 073, 742	-1.6	1, 074	214, 629	-1.3	5, 822, 649	-1.3
Illinois.....	⁴ 6, 572	619, 823	-1.3	16, 737, 869	-1.3	2, 387	415, 814	-1.2	11, 228, 436	-1.3
Michigan.....	4, 548	556, 107	-1.2	18, 145, 205	-.2	1, 036	453, 217	-1.5	15, 487, 729	-.3
Wisconsin.....	⁵ 4, 283	<i>249, 885</i>	-.2	<i>6, 604, 840</i>	-(1)	⁷ 1, 500	<i>174, 308</i>	-1.0	<i>4, 716, 793</i>	-1.8
West North Central..	12, 902	466, 801	+ .1	11, 061, 895	+ .4	2, 464	224, 502	-.8	5, 579, 561	-1.0
Minnesota.....	⁸ 2, 863	<i>134, 104</i>	+1.4	<i>3, 665, 286</i>	+2.9	<i>641</i>	<i>52, 822</i>	+ .3	<i>1, 419, 529</i>	+2.2
Iowa.....	2, 040	66, 856	-.5	1, 628, 972	-1.1	366	37, 765	-1.0	955, 604	-2.2
Missouri.....	3, 248	170, 980	-1.5	4, 113, 257	-2.0	804	97, 198	-2.1	2, 259, 981	-3.9
North Dakota...	511	4, 621	-.5	113, 011	+1.1	29	455	+4.6	11, 690	+4.0
South Dakota...	493	8, 240	+ .6	220, 423	+ .5	29	2, 579	-2.7	63, 671	-1.3
Nebraska.....	1, 321	27, 866	+1.9	636, 715	+2.3	142	8, 898	-.3	228, 381	+2.1
Kansas.....	⁹ 2, 426	<i>54, 134</i> ¹⁰	+5.0	<i>1, 284, 231</i>	+2.7	<i>453</i>	<i>24, 786</i>	+2.5	<i>640, 705</i>	+5.9

See footnotes at end of table.

TABLE 3.—Comparison of Employment and Pay Rolls in Identical Establishments in March and April 1940, by Geographic Divisions and by States—Continued

Geographic division and State	Total—all groups					Manufacturing				
	Number of establishments	Number on pay roll April 1940	Percentage change from March 1940	Amount of pay roll (1 week) April 1940	Percentage change from March 1940	Number of establishments	Number on pay roll April 1940	Percentage change from March 1940	Amount of pay roll (1 week) April 1940	Percentage change from March 1940
				Dollars					Dollars	
South Atlantic.....	11,269	931,146	-1.4	18,609,639	-1.9	3,034	634,061	-1.2	11,783,411	-1.8
Delaware.....	244	16,380	+1.1	427,073	+3.8	78	11,620	+1.7	298,814	+4.5
Maryland.....	1,571	151,609	-0.5	3,858,656	-0.6	643	110,352	+0.2	2,815,528	+0.5
District of Columbia.....	1,048	40,093	+0.9	1,103,438	+0.8	40	3,320	+2.2	117,162	+1.9
Virginia.....	2,023	127,980	-0.9	2,486,838	-1.3	470	87,603	-0.3	1,673,234	-0.9
West Virginia.....	1,288	144,313	-1.7	3,568,658	-3.3	216	52,376	-3.0	1,313,608	-4.4
North Carolina.....	1,658	109,984	-0.9	2,643,167	-2.7	691	154,224	-0.6	2,372,077	-2.8
South Carolina.....	846	99,586	-0.4	1,495,811	-0.4	292	91,468	-0.4	1,340,500	-0.6
Georgia.....	1,508	127,445	-2.1	2,064,233	-1.7	410	99,207	-2.6	1,462,898	-2.5
Florida.....	1,083	53,756	-8.9	967,765	-9.7	194	23,901	-8.9	389,790	-8.7
East South Central.....	4,961	324,870	-1.3	6,042,239	-1.5	1,069	201,544	-1.3	3,529,410	-2.4
Kentucky.....	1,569	89,633	-1.9	1,866,733	-1.4	299	36,995	-1.4	768,796	-2.5
Tennessee.....	1,407	108,878	-0.3	1,953,314	-0.7	375	80,018	+0.1	1,393,751	-1.3
Alabama.....	1,415	103,477	-1.8	1,864,928	-2.3	295	69,511	-2.3	1,153,380	-3.3
Mississippi.....	570	22,882	-1.9	357,264	-1.8	100	15,020	-3.8	213,483	-3.5
West South Central.....	5,868	230,038	-0.7	5,188,995	+0.4	1,348	113,644	+0.2	2,477,622	+0.7
Arkansas.....	1,898	27,544	-0.6	456,244	-0.9	258	18,458	+0.9	294,208	-0.9
Louisiana.....	1,044	55,866	-1.7	1,126,724	-0.1	235	30,313	-1.2	576,525	+0.2
Oklahoma.....	1,367	41,240	-0.2	1,021,923	+1.5	138	12,126	+2.1	283,772	+2.9
Texas.....	2,559	105,588	-0.5	2,584,104	+0.3	717	62,747	+0.6	1,323,117	+0.6
Mountain.....	4,092	125,293	+0.3	3,290,783	+0.1	566	34,063	+3.0	887,829	+3.1
Montana.....	638	19,625	+1.1	563,580	+1.3	75	4,795	+4.7	124,937	+3.2
Idaho.....	498	10,091	+2.8	263,749	+2.5	59	2,433	+11.7	63,940	+13.0
Wyoming.....	347	7,978	+1.2	219,968	+1.4	33	1,122	+7.5	37,628	+3.9
Colorado.....	1,191	40,073	-2.3	1,019,964	-2.0	209	15,494	+0.2	415,539	+1.5
New Mexico.....	289	6,170	+3.0	132,484	+5.5	30	950	+14.9	19,474	+16.5
Arizona.....	404	17,474	+0.7	480,995	-0.4	35	2,782	+2.1	68,349	+0.5
Utah.....	559	21,176	+1.6	523,856	+0.9	115	6,208	+3.6	149,462	+3.0
Nevada.....	166	2,706	+4.0	86,187	-1.7	13	279	+5.7	8,500	+4.8
Pacific.....	10,974	520,883	+2.3	15,117,696	+2.2	2,723	274,274	+4.1	7,771,775	+3.4
Washington.....	2,624	96,266	+0.1	2,719,515	+0.7	553	54,836	-0.3	1,583,906	+1.1
Oregon.....	1,277	47,927	+0.2	1,277,221	+1.9	303	27,851	+0.1	724,019	+3.1
California.....	7,073	376,690	+3.1	11,120,960	+2.6	1,867	191,587	+6.1	5,463,850	+4.2

¹ Less than 1/10 of 1 percent.² Includes banks and trust companies; construction, municipal, agricultural, and office employment; amusement and recreation; professional services; and trucking and handling.³ Includes laundering and cleaning; and water, light, and power.⁴ Weighted percentage change.⁵ Includes automobile and miscellaneous services; restaurants; and building and contracting.⁶ Includes construction but not public works.⁷ Does not include logging.⁸ Includes banks; real estate; pipe-line transportation; motor transportation (other than operation and maintenance); water transportation; hospitals and clinics; and personal, business, mechanical repair, and miscellaneous services.⁹ Includes financial institutions, miscellaneous services, and restaurants.¹⁰ Weighted percentage change, including hired farm labor.¹¹ Includes automobile dealers and garages; and sand, gravel, and building stone.¹² Includes banks, insurance, and office employment.

INDUSTRIAL AND BUSINESS EMPLOYMENT IN PRINCIPAL METROPOLITAN AREAS

A comparison of employment and pay rolls in March and April 1940 is made in table 4 for 13 metropolitan areas, each of which had a population of 100,000 or over in 1930. Cities within these areas but having a population of 100,000 or over, are not included. Footnotes to the table specify which cities are excluded. Data concerning them have

been prepared in a supplementary tabulation which is available on request. The figures represent reports from cooperating establishments and cover both full- and part-time workers in the manufacturing and nonmanufacturing industries presented in table 1, with the exception of building construction, and include also miscellaneous industries.

Revisions made in the figures after they have gone to press, chiefly because of late reports by cooperating firms, are incorporated in the supplementary tabulation mentioned above. This supplementary tabulation covers these 13 metropolitan areas, as well as other metropolitan areas and cities having a population of 100,000 or more, according to the 1930 Census of Population.

TABLE 4.—*Comparison of Employment and Pay Rolls in Identical Establishments in March and April 1940 by Principal Metropolitan Areas*

Metropolitan area	Number of establishments April 1940	Number on pay roll April 1940	Percentage change from March 1940	Amount of pay roll (1 week) April 1940	Percentage change from March 1940
New York ¹	14, 139	690, 652	-2.1	\$19, 543, 974	-3.0
Chicago ²	4, 358	445, 217	-1.0	12, 478, 545	-.8
Philadelphia ³	2, 419	215, 642	-1.1	5, 933, 216	-1.4
Detroit.....	1, 653	360, 264	-1.8	12, 531, 932	+.1
Los Angeles ⁴	2, 978	171, 713	-.2	5, 021, 775	+1.6
Cleveland.....	1, 372	127, 008	-.7	3, 715, 176	+.1
St. Louis.....	1, 400	127, 970	-2.4	3, 173, 682	-3.1
Baltimore.....	1, 150	116, 112	-.2	2, 994, 271	-.5
Boston ⁵	2, 704	182, 865	-1.8	4, 628, 750	-2.6
Pittsburgh.....	1, 237	189, 524	-2.2	5, 479, 422	-.7
San Francisco ⁶	1, 627	80, 961	+.5	2, 490, 360	+.2
Buffalo.....	797	75, 059	-1.4	2, 048, 081	-1.4
Milwaukee.....	987	104, 140	+.1	2, 974, 155	+.5

¹ Does not include Elizabeth, Jersey City, Newark, nor Paterson, N. J., nor Yonkers, N. Y.

² Does not include Gary, Ind.

³ Does not include Camden, N. J.

⁴ Does not include Long Beach, Calif.

⁵ Does not include Cambridge, Lynn, or Somerville, Mass.

⁶ Does not include Oakland, Calif.

TRENDS OF MANUFACTURING EMPLOYMENT, 1927 TO 1939: A CORRECTION

IN THE article under this title in the June 1940 issue of the Monthly Labor Review, the date 1927 given in the nineteenth line on page 1308 should have been 1937.

Building Operations

SUMMARY OF BUILDING CONSTRUCTION IN PRINCIPAL CITIES, MAY 1940 ¹

BUILDING-PERMIT valuations of new residential construction in May 1940 showed a gain of only 1.9 percent over April. Decreases occurred in the group of cities having a population of 1,000 and under 5,000 and in those having a population of 500,000 and over, while all intermediate city size groups showed increases. Permit valuations of new nonresidential construction were 3.1 percent higher than in April, while additions, alterations, and repairs declined 3.5 percent. All classes of construction combined showed an increase of 1.3 percent over the preceding month.

There was practically no change in permit valuations over the year period. New residential construction in May was 0.6 percent greater and nonresidential construction 3.1 percent greater than in the corresponding month in 1939. Additions, alterations, and repairs to existing structures, however, declined 4.1 percent from May 1939. Permit valuations of all classes of building construction showed a gain of 0.4 percent over the year period.

Comparison of May 1940 with April 1940 and May 1939

A summary of building construction in 2,046 identical cities in May 1940, April 1940, and May 1939 is given in table 1.

TABLE 1.—*Summary of Building Construction for Which Permits Were Issued in 2,047 Identical Cities, May 1940*

Class of construction	Number of buildings			Permit valuation		
	May 1940	Percentage change from—		May 1940	Percentage change from—	
		April 1940	May 1939		April 1940	May 1939
All construction.....	82,467	+2.6	+2.2	\$202,585,848	+1.3	+0.4
New residential.....	23,756	-1.1	-2.6	123,088,422	+1.9	+0.6
New nonresidential.....	13,995	-0.7	+4.1	48,638,627	+3.1	+3.1
Additions, alterations, and repairs.....	44,716	+5.9	+4.3	30,858,799	-3.5	-4.1

¹ More detailed information by geographic divisions and individual cities is given in a separate pamphlet entitled "Building Construction, May 1940," copies of which will be furnished upon request.

A summary of permit valuations of housekeeping dwellings and the number of families provided for in new dwellings in 2,047 identical cities having a population of 1,000 and over, is shown in table 2 for May 1940 compared with April 1940 and May 1939.

TABLE 2.—*Permit Valuation of Housekeeping Dwellings and Number of Families Provided for in 2,047 Identical Cities, May 1940*

Type of dwelling	Permit valuation of housekeeping dwellings			Number of families provided for in new dwellings		
	May 1940	Percentage change from—		May 1940	Percentage change from—	
		April 1940	May 1939		April 1940	May 1939
All types.....	\$117,463,392	-1.3	-3.1	32,162	-3.7	-1.4
1-family.....	87,602,778	-.3	-1.2	22,002	-1.1	-2.1
2-family ¹	4,003,038	-4.3	-15.7	1,525	-10.4	-12.9
Multifamily ²	25,857,576	-4.1	-7.1	8,635	-8.6	+3.0

¹ Includes 1-and 2-family dwellings with stores.

² Includes multifamily dwellings with stores.

Construction During First 5 Months, 1939 and 1940

Cumulative totals for the first 5 months of 1940 compared with the same months of the preceding year are shown in table 3. The data are based on reports received from cities having a population of 1,000 and over.

TABLE 3.—*Permit Valuation of Building Construction in Reporting Cities of 1,000 Population and Over, First 5 Months, 1939 and 1940*

Class of construction	Permit valuation of building construction, first 5 months of—		Percentage change
	1940	1939	
All construction.....	\$822,205,293	\$828,393,377	-0.7
New residential.....	483,770,903	444,741,480	+8.8
New nonresidential.....	206,507,752	237,540,141	-13.1
Additions, alterations, and repairs.....	131,926,638	146,111,756	-9.7

Table 4 presents the permit valuation of housekeeping dwellings and number of family-dwelling units provided, in cities with a population of 1,000 and over, for the first 5 months of 1939 and 1940.

TABLE 4.—*Permit Valuation of Housekeeping Dwellings and Number of Family Dwelling Units, First 5 Months, 1939 and 1940, by Type of Dwelling*

Type of dwelling	Permit valuation of housekeeping dwellings, first 5 months of—		Percentage change	Number of family dwelling units, first 5 months of—		Percentage change
	1940	1939		1940	1939	
All types.....	\$474,500,913	\$439,521,223	+8.0	132,684	121,404	+9.3
1-family.....	329,756,285	308,031,151	+7.1	84,215	78,993	+6.6
2-family ¹	16,314,728	17,196,067	-5.1	6,603	6,545	+0.9
Multifamily ²	128,429,900	114,294,005	+12.4	41,866	35,866	+16.7

¹ Includes 1- and 2-family dwellings with stores.² Includes multifamily dwellings with stores.*Analysis by Size of City, May 1940*

Table 5 shows the value of permits issued for building construction in May 1940, compared with April 1940 and May 1939, by size of city and by class of construction.

TABLE 5.—*Permit Valuation of Building Construction in 2,047 Identical Cities, by Size of City, May 1940*

Size of city	Number of cities	Total construction			New residential buildings				
		Permit valuation, May 1940	Percentage change from—		Permit valuation, May 1940	Percentage change from—			
			April 1940	May 1939		April 1940	May 1939		
Total, all reporting cities.....	2,047	\$202,585,848	+1.3	+0.4	\$123,088,422	+1.9	+0.6		
500,000 and over.....	14	50,736,720	-19.7	-7.5	30,960,980	-20.6	-14.7		
100,000 and under 500,000.....	79	52,706,484	+29.5	-3.2	32,055,809	+27.8	-11.5		
50,000 and under 100,000.....	94	18,477,166	-1.8	-10.7	11,063,945	+8.9	+4.7		
25,000 and under 50,000.....	164	20,448,388	+5	+7.1	12,330,766	+2.0	+10.1		
10,000 and under 25,000.....	422	27,923,370	+11.3	+21.1	17,997,091	+8.3	+30.3		
5,000 and under 10,000.....	364	14,507,068	+11.4	+20.6	10,439,669	+10.8	+41.4		
2,500 and under 5,000.....	457	7,443,338	+1.1	-2.9	5,218,700	-2.3	+13.2		
1,000 and under 2,500.....	453	4,343,314	+11.0	+27.7	3,021,453	-7	+32.6		
		New nonresidential buildings		Additions, alterations, and repairs		Population (census of 1930)			
		Permit valuation, May 1940	Percentage change from—		Permit valuation, May 1940			Percentage change from—	
			April 1940	May 1939				April 1940	May 1939
Total, all reporting cities.....	448,638,627	+3.1	+3.1	\$30,858,799	-3.5	-4.1	59,888,308		
500,000 and over.....	15,568,816	-30.1	+6.0	10,206,915	+8.7	-1.7	21,449,853		
100,000 and under 500,000.....	13,725,062	+88.2	+33.5	6,925,613	-16.7	-12.7	15,017,880		
50,000 and under 100,000.....	3,953,808	-20.1	-41.2	3,459,413	-7.0	+1.9	6,274,332		
25,000 and under 50,000.....	4,682,554	+10.1	-1.4	3,435,068	-14.3	+9.3	5,758,416		
10,000 and under 25,000.....	5,966,339	+38.2	+28.8	3,959,940	-4.5	-14.3	6,440,353		
5,000 and under 10,000.....	2,243,685	-3	-26.8	1,823,714	+35.1	+15.5	2,568,915		
2,500 and under 5,000.....	1,556,477	+22.1	-35.3	668,161	-10.8	+2.8	1,644,930		
1,000 and under 2,500.....	941,886	+67.7	+48.1	379,975	+23.6	-21.9	733,629		

The permit valuation of housekeeping dwellings in the 2,047 identical cities reporting for April and May 1940, together with the number of family dwelling units provided in new dwellings, by size of city, is given in table 6.

TABLE 6.—*Permit Valuation of Housekeeping Dwellings and Number of Families Provided for in 2,047 Identical Cities, by Size of City, April and May 1940*

Size of city	Permit valuation of housekeeping dwellings			Number of families provided for in—							
	May 1940	April 1940	Percentage change	All types		1-family dwellings		2-family dwellings ¹		Multi-family dwellings ²	
				May 1940	Apr. 1940	May 1940	Apr. 1940	May 1940	Apr. 1940	May 1940	Apr. 1940
Total, all reporting cities.....	\$117, 463, 392	\$118, 978, 033	-1.3	32, 162	33, 408	22, 002	22, 255	1, 525	1, 702	8, 635	9, 451
500,000 and over.....	30, 531, 489	38, 765, 610	-21.2	7, 903	10, 587	4, 696	4, 845	475	471	2, 732	5, 271
100,000 and under 500,000.....	29, 321, 503	25, 063, 065	+17.0	8, 539	7, 294	4, 602	4, 764	370	410	3, 567	2, 120
50,000 and under 100,000.....	10, 960, 845	10, 121, 468	+8.3	3, 106	2, 869	2, 140	2, 203	166	234	800	432
25,000 and under 50,000.....	11, 863, 742	11, 636, 177	+2.0	3, 244	3, 477	2, 464	2, 542	173	228	607	707
10,000 and under 25,000.....	17, 360, 291	16, 336, 870	+6.3	4, 568	4, 475	4, 059	4, 035	153	176	356	264
5,000 and under 10,000.....	9, 252, 819	8, 796, 849	+5.2	2, 546	2, 430	1, 984	1, 941	88	74	474	415
2,500 and under 5,000.....	5, 166, 950	5, 312, 532	-2.7	1, 435	1, 558	1, 302	1, 267	64	81	69	210
1,000 and under 2,500.....	3, 005, 753	2, 945, 462	+2.0	821	718	755	658	36	28	30	32

¹ Includes 1- and 2-family dwellings with stores.

² Includes multifamily dwellings with stores.

The information on building permits issued is based on reports received by the Bureau of Labor Statistics from 2,047 identical cities having a population of 1,000 and over.

The information is collected by the Bureau of Labor Statistics from local building officials, except in the States of Illinois, Massachusetts, New Jersey, and Pennsylvania, where the State departments of labor collect and forward the information to the Bureau. In New York and North Carolina the information from the smaller cities is collected by the Bureau of Labor Statistics from local building officials and the information from the larger cities is collected and forwarded to the Bureau by the State departments of labor. The permit valuations shown in this report are estimates made by prospective builders on applying for permits to build. No land costs are included. Only building projects within the corporate limits of the cities enumerated are included in the Bureau's tabulation. The data collected by the Bureau of Labor Statistics show, in addition to private and municipal construction, the value of buildings for which contracts were awarded by the Federal and State governments in the cities included in the report. For May 1940 the value of these buildings amounted to \$21,052,000, for April 1940 to \$18,692,000, and for May 1939 to \$36,453,000.

Construction from Public Funds

The value of contracts awarded and force-account work started during May 1940, April 1940, and May 1939 on construction projects financed wholly or partially from various Federal funds is shown in table 7.

TABLE 7.—Value of Contracts Awarded and Force-Account Work Started on Construction Projects Financed from Federal Funds, April and May 1940, and May 1939¹

Federal agency	Contracts awarded and force-account work started—		
	May 1940	April 1940	May 1939
Total.....	\$85,241,167	² \$100,728,459	² \$162,809,612
Public Works Administration:			
Federal.....	2,347,202	340,306	1,628,327
Non-Federal:			
N. I. R. A.....	88,500	229,041	1,350,674
E. R. A. A.....	250,195	1,009,524	565,552
P. W. A. A. 1938.....	6,876,143	4,289,946	76,564,203
Federal agency projects under W. P. A.....	33,237	100,972	6,082,896
Regular Federal appropriations.....	57,031,846	85,053,167	46,408,091
U. S. Housing Authority.....	18,614,044	9,696,503	30,229,869

¹ Preliminary, subject to revision.

² Revised.

The value of public-building and highway construction awards financed wholly from appropriations from State funds, as reported by the various State governments for May 1940, April 1940, and May 1939 is shown in the following statement:

	Public build- ings	Highway con- struction
May 1940.....	\$814,717	\$13,104,454
April 1940.....	1,489,335	10,176,529
May 1939.....	431,032	4,012,847

Retail Prices

FOOD PRICES IN MAY 1940

THE average retail cost of food increased 0.8 percent between April 16 and May 14, largely because of higher meat costs and seasonal advances for fresh fruits and vegetables. These increases were offset to some extent by declines in prices of dairy products which usually occur at this season of the year.

The all-foods index for May was 97.0 percent of the 1935-39 average and was 3.2 percent higher than in May 1939 when the index stood at 94.0. Costs for four of the eight commodity groups averaged higher than a year ago, and four were lower. The increases were for cereals and bakery products (4.6 percent), dairy products (9.5 percent), fruits and vegetables (7.9 percent), and sugar (2.4 percent). The groups for which decreases occurred were meats (2.8 percent), fats and oils (4.5 percent), beverages (1.9 percent), and eggs (0.9 percent).

Details by Commodity Groups

The cost of cereals and bakery products remained unchanged for the month. Advances of 0.7 percent for flour and soda crackers were offset by decreases of 0.7 percent for macaroni and 1.2 percent for vanilla cookies. White bread, the most important item in the group, showed no change from last month.

Meat costs advanced for the third consecutive month as a result of increases for nearly all items in the group. The increase from April to May amounted to 1.9 percent, but costs for this group were still 2.8 percent lower than a year ago, due largely to the low level to which pork prices dropped in the last few months of 1939 and the first 2 months of 1940. An increase of 2.2 percent in the past month for the beef items resulted from advances of 2.2 percent for rib roast, 1.8 percent for chuck roast, and 2.6 percent for round steak. Prices of pork chops, which had dropped in February to the lowest level for the past 6 years, advanced 18.4 percent between February and April and 0.4 percent between April and May. They were still 9.8 percent lower than a year ago. Prices for cured pork showed an increase amounting to 1.7 percent for the month, offsetting to some extent the low levels reached in April. This is the first upturn in prices for these

items since the rise in September. Prices of roasting chickens rose markedly, 8.0 percent on the average, continuing an advance which began in February of this year. Prices of pink salmon continued to advance while prices for fresh fish declined between April and May.

The average cost for dairy products declined 1.9 percent because of seasonal decreases for all items in the group. Butter prices were lower in 45 of the 51 cities, and prices of fresh milk decreased in 7 cities. The average decline for butter amounted to 1.7 percent and for milk 1.6 percent. Costs for the dairy products as a whole were 9.5 percent higher than a year ago. Butter prices were 14.7 percent higher, and fresh milk averaged 8.0 percent higher.

Egg prices increased 0.3 percent, which was less than the usual seasonal advance.

An increase of 3.3 percent in the index for fruits and vegetables was due mainly to seasonal increases for many of the fresh items. Price increases in the group ranged from 1.6 percent for bananas to 25.5 percent for onions. Prices for oranges were higher in all of the 51 cities, and prices for potatoes advanced in 33 cities. Declines of 18.3 percent, 16.0 percent, and 8.6 percent were reported for green beans, lettuce, and spinach, respectively. The canned fruits and vegetables group showed no change. Dried fruits and vegetables rose slightly because of increases of 1.5 percent for navy beans and 1.0 percent for prunes, and were 13.0 percent higher than a year ago.

In the beverage group a decline of 0.5 percent for coffee represented the only change.

The index for fats and oils was slightly higher as a result of advances of 2.2 percent for lard and 1.1 percent for peanut butter. These increases were partially offset by declines of 0.5 percent for salad dressing and for shortening in tin containers. Lard prices which had dropped to the lowest level in the past 6 years in April were 9.5 percent lower in May than a year ago.

Sugar prices which had been declining since the sharp rise in September decreased 0.5 percent but were 2.4 percent higher than a year ago.

Revised indexes of retail food costs for May and April 1940 and May 1939 are shown in table 1.

Prices of 26 of the 54 foods included in the indexes were higher in May than in April, 14 were lower, and for 14 there was no change. Compared with a year ago, prices of 26 of the 54 foods were higher, 21 were lower, and for 5 there was no change. No yearly comparison can be made for vanilla cookies or salad dressing as they were not priced a year ago. Average prices of each of 63 foods for 51 cities combined are shown in table 2 for April and May 1940 and May 1939.

TABLE 1.—*Revised Indexes of the Retail Costs of Food in 51 Large Cities Combined,¹ by Commodity Groups, May 1939 and April and May 1940*

[1935-39=100]

Commodity group	1940		1939— May 16
	May 14 ²	Apr. 16	
All foods.....	97.0	96.2	94.0
Cereals and bakery products.....	98.4	98.4	94.1
Meats.....	94.9	93.1	97.6
Dairy products.....	99.1	101.0	90.5
Eggs.....	77.9	77.7	78.6
Fruits and vegetables.....	104.6	101.3	96.9
Fresh.....	107.8	103.4	98.7
Canned.....	92.9	92.9	91.5
Dried.....	100.9	100.8	89.3
Beverages.....	93.3	93.7	95.1
Fats and oils.....	82.9	82.8	86.8
Sugar.....	97.3	97.8	95.0

¹ Aggregate costs of 54 foods in each city, weighted to represent total purchases, have been combined for the United States with the use of population weights.

² Preliminary.

TABLE 2.—*Average Retail Prices of 63 Foods in 51 Large Cities Combined,¹ May 1939 and April and May 1940*

Article	1940		1939— May 16
	May 14 ²	Apr. 16	
Cereals and bakery products:			
Cereals:	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>
Flour, wheat..... 10 pounds.....	45.5	45.2	35.7
Macaroni..... pound.....	14.1	14.2	14.1
Wheat cereal ³ 28-oz. pkg.....	23.7	23.7	24.2
Corn flakes..... 8-oz. pkg.....	7.1	7.1	7.2
Corn meal..... pound.....	4.2	4.2	3.9
Rice ³ do.....	7.9	7.9	7.5
Rolled oats ³ do.....	7.2	7.2	7.1
Bakery products:			
Bread, white..... do.....	8.2	8.2	7.9
Bread, whole-wheat..... do.....	9.0	9.0	9.0
Bread, rye..... do.....	9.5	9.5	9.2
Vanilla cookies..... do.....	25.1	25.4	-----
Soda crackers..... do.....	15.1	15.0	14.9
Meats:			
Beef:			
Round steak..... do.....	35.0	34.1	36.0
Rib roast..... do.....	28.5	27.9	30.1
Chuck roast..... do.....	22.3	21.9	23.8
Veal:			
Cutlets..... do.....	42.0	41.2	42.7
Pork:			
Chops..... do.....	27.7	27.6	30.7
Bacon, sliced..... do.....	26.2	26.1	32.2
Ham, sliced ³ do.....	42.7	42.4	46.7
Ham, whole..... do.....	23.7	23.1	28.0
Salt pork..... do.....	13.8	13.5	17.7
Lamb:			
Leg..... do.....	28.7	28.7	30.2
Rib chops..... do.....	37.3	36.4	38.7
Poultry:			
Roasting chickens..... do.....	32.3	29.9	31.7
Fish:			
Fresh-frozen ⁴ do.....	-----	-----	-----
Salmon, pink..... 16-oz. can.....	15.6	15.4	12.5
Salmon, red ³ do.....	25.6	25.6	22.9
Dairy products:			
Butter..... pound.....	34.3	34.9	29.9
Cheese..... do.....	25.8	26.0	24.6
Milk, fresh (delivered)..... quart.....	12.6	12.8	11.6
Milk, fresh (store)..... do.....	11.3	11.6	10.5
Milk, fresh (delivered and store) ³ do.....	12.2	12.4	11.3
Milk, evaporated..... 14½-oz. can.....	6.9	7.0	6.7
Eggs..... dozen.....	27.4	27.3	27.7

See footnotes at end of table.

TABLE 2.—Average Retail Prices of 63 Foods in 51 Large Cities Combined, May 1939 and April and May 1940—Continued

Article	1940		1939— May 16
	May 14	Apr. 16	
Fruits and vegetables:			
Fresh:	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>
Apples.....pound	5.8	5.2	5.8
Bananas.....do	6.4	6.3	6.3
Oranges.....dozen	31.2	28.1	26.5
Beans, green.....pound	9.8	12.0 ¹	10.0
Cabbage.....do	4.1	4.0	3.9
Carrots.....bunch	5.4	5.0	5.5
Lettuce.....head	8.4	10.0	7.8
Onions.....pound	6.9	5.5	4.4
Potatoes.....15 pounds	45.2	42.7	41.5
Spinach.....pound	5.3	5.8	6.2
Sweet potatoes.....do	5.2	4.7	5.2
Canned:			
Peaches.....No. 2½ can	17.2	17.2	16.9
Pineapple.....do	21.0	21.0	21.1
Beans, green ².....No. 2 can	10.0	10.1	10.0
Corn.....do	10.5	10.5	10.2
Peas.....do	13.8	13.8	13.6
Tomatoes.....do	8.5	8.5	8.6
Dried:			
Prunes.....pound	9.8	9.7	8.8
Navy beans.....do	6.6	6.5	5.8
Beverages:			
Coffee.....do	21.5	21.6	22.4
Tea.....¼ pound	17.4	17.4	17.3
Cocoa ³.....8-oz. can	9.1	9.1	8.6
Fats and oils:			
Lard.....pound	9.5	9.3	10.5
Shortening, other than lard:			
In cartons.....do	11.9	11.9	11.9
In other containers.....do	19.2	19.3	20.2
Salad dressing ⁴.....pint	21.0	21.1	16.5
Oleomargarine.....pound	16.0	16.0	16.5
Peanut butter.....do	18.1	17.9	18.0
Sugar and sweets:			
Sugar.....10 pounds	52.3	52.6	51.4
Corn sirup ⁵.....24-oz. can	13.4	13.4	13.7
Molasses ⁵.....18-oz. can	13.4	13.5	13.6

¹ Since September 1939, supermarket prices have been substituted for those of certain service stores.² Preliminary.³ Not included in index. Prices for these items for May 1939 are weighted averages.⁴ Composite prices not computed.⁵ Effective January 1940, salad dressing replaced mayonnaise in the food-cost index.

Details by Regions and Cities

Increases in food costs between April and May were reported in 47 cities, decreases in 3, and for 1 city there was no change.

Of the 47 cities in which food costs advanced, 3 showed increases of 3.0 percent or over, and 8 showed increases of from 2.0 to 3.0 percent. The greatest advances occurred in Peoria, Milwaukee, and Omaha. Greater than average increases for meats and fresh fruits and vegetables were responsible for the higher costs in those three cities.

The three cities showing declines were Boston (0.9 percent), New York (0.4 percent), and San Francisco (0.3 percent). Lower costs in Boston and San Francisco were due to declines in meat costs and greater than average decreases for dairy products, together with relatively small increases for fresh fruits and vegetables. In New York, lower costs were due to declines in the costs of fresh fruits and vegetables and greater than average decreases for dairy products.

Revised indexes of food costs by cities are presented in table 3 for May and April 1940 and May 1939.

TABLE 3.—*Revised Indexes of the Average Retail Cost of All Foods, by Cities,¹ May 1939 and April and May 1940*

[1935-39=100]

Region and city	1940		1939, May 16	Region and city	1940		1939, May 16
	May 14 ²	Apr. 16			May 14 ²	Apr. 16	
United States.....	97.0	96.2	94.0	West North Central—Continued:			
New England:				St. Louis.....	96.7	95.1	94.6
Boston.....	96.9	97.8	94.2	St. Paul.....	96.0	94.6	96.1
Bridgeport.....	97.5	96.9	94.3	South Atlantic:			
Fall River.....	98.4	98.0	95.5	Atlanta.....	93.1	92.7	91.5
Manchester.....	98.4	98.4	94.8	Baltimore.....	99.1	97.7	96.6
New Haven.....	97.3	96.1	94.0	Charleston, S. C.....	95.2	95.1	94.4
Portland, Maine.....	95.7	93.5	92.1	Jacksonville.....	97.8	96.3	94.8
Providence.....	98.3	97.1	93.4	Norfolk.....	96.0	93.3	93.0
Middle Atlantic:				Richmond.....	93.4	91.7	91.6
Buffalo.....	99.4	98.1	94.9	Savannah.....	98.9	97.1	95.7
Newark.....	99.1	98.6	96.1	Washington, D. C.....	96.9	96.7	93.6
New York.....	98.5	98.9	94.2	East South Central:			
Philadelphia.....	94.8	94.2	94.4	Birmingham.....	92.1	90.8	90.4
Pittsburgh.....	96.8	94.7	92.6	Louisville.....	95.3	93.6	91.5
Rochester.....	100.3	98.7	93.9	Memphis.....	93.9	92.4	89.5
Scranton.....	98.3	97.6	94.4	Mobile.....	97.8	96.1	95.0
East North Central:				West South Central:			
Chicago.....	98.3	96.4	94.1	Dallas.....	92.5	90.4	91.0
Cincinnati.....	94.4	92.7	91.1	Houston.....	98.6	97.3	96.5
Cleveland.....	97.1	96.1	95.5	Little Rock.....	97.1	95.6	93.4
Columbus, Ohio.....	92.9	91.3	90.6	New Orleans.....	101.3	101.2	95.3
Detroit.....	96.6	96.4	91.5	Mountain:			
Indianapolis.....	95.6	95.4	91.8	Butte.....	98.4	96.3	96.1
Milwaukee.....	96.8	93.8	93.6	Denver.....	96.7	94.7	94.5
Peoria.....	99.4	96.3	96.1	Salt Lake City.....	97.4	95.7	95.5
Springfield, Ill.....	97.4	95.4	94.3	Pacific:			
West North Central:				Los Angeles.....	96.5	95.1	93.9
Kansas City.....	92.3	91.6	93.7	Portland, Oreg.....	98.2	97.6	97.6
Minneapolis.....	95.7	94.9	97.0	San Francisco.....	95.5	95.8	94.5
Omaha.....	98.2	95.3	94.6	Seattle.....	99.8	98.9	96.4

¹ Aggregate costs of 54 foods in each city, weighted to represent total purchases, have been combined for the United States with the use of population weights.

² Preliminary.

REVISED INDEXES OF RETAIL COSTS OF FOOD

THE retail food cost indexes upon which the changes discussed in the preceding article were calculated are revised indexes based on the distribution of expenditures as shown by the 1934-36 study made by the Bureau of Labor Statistics of expenditures of wage earners' and lower salaried workers' families.

In accordance with a recommendation of the Central Statistical Board, an average of the years 1935-39 is being used as a base in presenting the revised indexes of retail food costs. This base was recommended by the Central Statistical Board for adoption by Federal agencies which prepare general-purpose index numbers.

Differences in changes in retail food costs as shown by the revised, as compared with the unrevised, data are due largely to the relatively greater importance of citrus fruits and green vegetables and to the lesser importance of cereals, potatoes, and apples in the revised index.

The change in retail food costs as shown by the revised index from April to May is approximately the same as that shown by the unrevised index.

The essential features of the revision, as well as the revised indexes of food costs of commodity groups for 51 cities and of costs of all foods for each of the 51 cities for each month from January 1935 to May 1940, are presented in the pamphlet *Retail Prices for May 1940* (Serial No. R 1123). This pamphlet is available upon request.

Wholesale Prices

WHOLESALE PRICES IN MAY 1940¹

A SHARP break in prices for farm products, particularly grains, sheep, cotton, and milk, was mainly responsible for a decrease of 0.3 percent in the Bureau of Labor Statistics' index of wholesale commodity prices during May. The decline offset the April gain and caused the all-commodity index to revert to the March level, 78.4 percent of the 1926 average. Notwithstanding the decline, the index was nearly 3 percent above that of a year ago.

Except for a drop of 2.2 percent in farm products very little change was recorded in the commodity group indexes. Hides and leather products decreased 0.5 percent; foods fell 0.3 percent; and fuel and lighting materials and chemicals and allied products declined 0.1 percent. Housefurnishing goods, on the contrary, advanced 0.1 percent and textile products, metals and metal products, building materials, and miscellaneous commodities remained unchanged at the April level. Each of the commodity group indexes, except fuel and lighting materials, was substantially higher than a year ago. The increases range from slightly more than 1 percent for metals and metal products to over 10½ percent for hides and leather products. Pronounced increases were shown for some of the subgroup indexes. Crude rubber was nearly 29 percent above a year ago. Hides and skins rose almost 28 percent; dairy products, 24 percent; grains, 19½ percent; and "other textile products," 16 percent. "Other farm products," leather, woolen and worsted goods, and paper and pulp ranged from 10 to 15 percent higher than a year ago. The livestock and poultry and meat subgroups dropped 5 and 6 percent, respectively.

Largely because of the decline in agricultural commodities and lower prices for cocoa beans, copra, coffee, hides, sisal, crude petroleum, and iron ore, the raw materials group index declined 1.4 percent. Average prices for semimanufactured and manufactured products rose fractionally. The indexes for "All commodities other than farm products" and "All commodities other than farm products and foods" were unchanged from April.

¹ More detailed information on wholesale prices is given in the Wholesale Prices pamphlet and will be furnished upon request.

The April gain in farm product prices was offset by a decline of 2.2 percent during May, and the index dropped to 67.9 percent of the 1926 average. A decrease of 7.8 percent in grain prices largely accounted for the decline in the group index. Prices for oats, rye, wheat, ewes, wethers, cotton, lemons, oranges, fresh milk, flaxseed, and wool fell sharply, and smaller declines were recorded for cows, steers, lambs, live poultry, eggs, and hay. The livestock and poultry subgroup rose 1.8 percent because of higher prices for calves and hogs. Quotations were higher also for corn, apples, hops, peanuts, beans, onions, and potatoes.

Declines of 5.9 percent for dairy products and 2.6 percent for cereal products, principally flour, oatmeal, and bread in the San Francisco area, were mainly responsible for a decrease of 0.3 percent in the foods group index. Prices were lower also for butter, cheese, evaporated milk, most dried fruits, canned tomatoes, mutton, cocoa beans, coffee, glucose, lard, jelly, pepper, sugar, tallow, and most vegetable oils. Fruits and vegetables advanced 5.3 percent and meats rose 3.8 percent. Prices were higher for canned and fresh fruits and vegetables, powdered milk, rice, corn meal, hominy grits, fresh beef, lamb, cured and fresh pork, veal, dressed poultry, and olive and corn oils.

Weakening prices for hides, goat and sheep skins, together with lower prices for women's shoes, caused the hides and leather products group index to fall 0.5 percent. Prices were higher for calf and kip skins and leather.

Continued declines in prices for industrial cotton goods, such as duck, osnaburg, print cloth, ticking, tire fabric, and yarn, and lower prices for hosiery, underwear, worsted yarns, woolen materials, sisal, and cordage brought the textile products group index to the lowest point reached since last September. Prices were higher for clothing, burlap, hemp, artificial leather, raw silk, and silk yarns.

The decrease in the fuel and lighting materials group index was a result of lower prices for coal and crude petroleum from Pennsylvania fields. Prices for gasoline and kerosene advanced.

The metals and metal products group index remained unchanged from April. Prices were higher for scrap steel, steel sheets, strips, wire, babbitt metal, quicksilver, bar silver, solder, tin, and zinc. Quotations were lower for iron ore, pig lead, lead pipe, brass rods, farm machinery, range boilers, and woodscrews.

Lower prices for paint materials, particularly copal gum, tung oil, linseed oil, rosin, shellac, and turpentine, together with declining prices for sand, gravel, red cedar shingles, and Ponderosa pine, Douglas fir, and spruce lumber, were counterbalanced by higher prices for brick, cement, zinc oxide, and yellow pine and hemlock lumber, and the building materials group index remained at 92.5.

Falling prices for fats and oils and mixed fertilizers accounted for the fractional decline in the chemicals and allied products group index.

Prices for chemicals, drugs and pharmaceuticals, and fertilizer materials rose slightly.

The index for housefurnishing goods registered a minor advance because of higher prices for blankets, carpets, and cutlery.

Average wholesale prices for cattle feed declined 6.8 percent during May. Prices for cylinder oils and cooperage also weakened. Crude rubber advanced 11.9 percent and paper and pulp rose 1.3 percent.

Index numbers for the groups and subgroups of commodities for April and May 1940 and May 1939, and the percentage changes from a month ago and a year ago are shown in table 1.

TABLE 1.—Index Numbers of Wholesale Prices by Groups and Subgroups of Commodities, May 1940, With Comparisons for April 1940 and May 1939

[1926=100]

Group and subgroup	May 1940	April 1940	Change from a month ago	May 1939	Change from a year ago
			Percent		Percent
All commodities.....	78.4	78.6	-0.3	76.2	+2.9
Farm products.....	67.9	69.4	-2.2	63.7	+6.6
Grains.....	71.2	77.2	-7.8	59.6	+19.5
Livestock and poultry.....	69.6	68.4	+1.8	73.2	-4.9
Other farm products.....	65.5	67.4	-2.8	58.7	+11.6
Foods.....	71.4	71.6	-.3	68.2	+4.7
Dairy products.....	72.8	77.4	-5.9	58.6	+24.2
Cereal products.....	81.0	83.2	-2.6	73.8	+9.8
Fruits and vegetables.....	69.2	65.7	+3.5	63.8	+8.5
Meats.....	73.8	71.1	+3.8	78.6	-6.1
Other foods.....	62.2	63.2	-1.6	61.4	+1.3
Hides and leather products.....	101.3	101.8	-.5	91.6	+10.6
Shoes.....	107.9	108.2	-.3	101.3	+6.5
Hides and skins.....	92.2	94.8	-2.7	72.1	+27.9
Leather.....	93.6	93.2	+.4	83.1	+12.6
Other leather products.....	100.0	100.0	0	95.6	+4.6
Textile products.....	72.9	72.9	0	67.5	+5.0
Clothing.....	85.0	84.7	+.4	81.7	+4.0
Cotton goods.....	69.4	70.2	-1.1	63.3	+9.6
Hosiery and underwear.....	61.3	61.7	-.6	60.2	+1.8
Rayon.....	29.5	29.5	0	28.5	+3.5
Silk.....	47.0	45.4	+3.5	45.6	+3.1
Woolen and worsted goods.....	83.4	83.8	-.5	75.4	+10.6
Other textile products.....	75.7	74.6	+1.5	65.3	+15.9
Fuel and lighting materials.....	71.7	71.8	-.1	73.9	-3.0
Anthracite.....	76.5	77.4	-1.2	75.3	+1.6
Bituminous coal.....	95.8	96.4	-.6	90.0	+3.2
Coke.....	109.6	109.6	0	104.2	+5.2
Electricity.....	(1)	(1)	-----	79.3	-----
Gas.....	(1)	82.0	-----	86.0	-----
Petroleum and products.....	50.7	50.4	+.6	52.5	-3.4
Metals and metal products.....	94.5	94.5	0	93.5	+1.1
Agricultural implements.....	92.5	93.5	-1.1	93.4	-1.0
Farm machinery.....	93.7	94.7	-1.1	94.6	-1.0
Iron and steel.....	94.2	94.3	-.1	95.7	-1.6
Motor vehicles ¹	94.8	94.8	0	93.0	+1.9
Nonferrous metals.....	80.3	79.2	+1.4	73.1	+9.8
Plumbing and heating.....	80.6	80.9	-.4	79.3	+1.6
Building materials.....	92.5	92.5	0	89.5	+3.4
Brick and tile.....	90.2	90.2	0	91.7	-1.6
Cement.....	90.5	90.3	+.2	91.5	-1.1
Lumber.....	96.6	96.1	+.5	91.2	+5.9
Paint and paint materials.....	86.0	86.7	-.8	81.6	+5.4
Plumbing and heating.....	80.6	80.9	-.4	79.3	+1.6
Structural steel.....	107.3	107.3	0	107.3	0
Other building materials.....	92.2	92.3	-.1	89.6	+2.9

¹ Data not yet available.

² Preliminary revision.

TABLE 1.—Index Numbers of Wholesale Prices by Groups and Subgroups of Commodities, May 1940, With Comparisons for April 1940 and May 1939—Continued

Group and subgroup	May 1940	April 1940	Change from a month ago	May 1939	Change from a year ago
			Percent		Percent
Chemicals and allied products	76.7	76.8	-0.1	75.6	+1.5
Chemicals.....	85.1	85.0	+1.1	84.4	+1.8
Drugs and pharmaceuticals.....	82.0	81.8	+1.2	77.4	+5.9
Fertilizer materials.....	70.8	70.7	+1.1	68.4	+3.5
Mixed fertilizers.....	73.0	73.8	-1.1	72.7	+1.4
Oils and fats.....	46.1	46.8	-1.5	46.6	-1.1
Housefurnishing goods	88.3	88.4	+1.1	85.5	+3.5
Furnishings.....	94.8	94.5	+3.3	89.8	+5.6
Furniture.....	81.9	81.9	0	81.0	+1.1
Miscellaneous	77.7	77.7	0	74.2	+4.7
Automobile tires and tubes.....	58.0	58.0	0	60.5	-4.1
Cattle feed.....	93.3	100.1	-6.8	87.4	+6.8
Paper and pulp.....	90.7	89.5	+1.3	80.4	+12.8
Rubber, crude.....	44.1	39.4	+11.9	34.2	+28.9
Other miscellaneous.....	84.3	85.1	-1.9	81.4	+3.6
Raw materials	72.0	73.0	-1.4	68.9	+4.5
Semimanufactured articles	78.3	78.2	+1.1	74.3	+5.4
Manufactured products	81.3	81.2	+1.1	79.9	+1.8
All commodities other than farm products	80.5	80.5	0	78.8	+2.2
All commodities other than farm products and foods	82.5	82.5	0	80.6	+2.4

Index Numbers by Commodity Groups, 1926 to May 1940

Index numbers of wholesale prices by commodity groups for selected years from 1926 to 1939, inclusive, and by months from May 1939 to May 1940, inclusive, are shown in table 2.

TABLE 2.—Index Numbers of Wholesale Prices, by Groups of Commodities

[1926=100]

Year and month	Farm products	Foods	Hides and leather products	Textile products	Fuel and lighting	Metals and metal products	Building materials	Chemicals and allied products	Housefurnishing goods	Miscellaneous	All commodities
By years:											
1926.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1929.....	104.9	99.9	109.1	90.4	83.0	100.5	95.4	94.0	94.3	82.6	95.3
1932.....	48.2	61.0	72.9	54.9	70.3	80.2	71.4	73.9	75.1	64.4	64.8
1933.....	51.4	60.5	80.9	64.8	66.3	79.8	77.0	72.1	75.8	62.5	65.9
1936.....	80.9	82.1	95.4	71.5	76.2	87.0	86.7	78.7	81.7	70.5	80.8
1937.....	86.4	85.5	104.6	76.3	77.6	95.7	95.2	82.6	89.7	77.8	86.3
1938.....	68.5	73.6	92.8	66.7	76.5	95.7	90.3	77.0	86.8	73.3	78.6
1939.....	65.3	70.4	95.6	69.7	73.1	94.4	90.5	76.0	86.3	74.8	77.1
By months:											
1939:											
May.....	63.7	68.2	91.6	67.5	73.9	93.5	89.5	75.6	85.5	74.2	76.2
June.....	62.4	67.6	92.3	67.3	73.0	93.2	89.5	75.2	85.6	73.8	75.6
July.....	62.6	67.5	92.5	67.6	72.8	93.2	89.7	74.5	85.6	73.4	75.4
August.....	61.0	67.2	92.7	67.8	72.6	93.2	89.6	74.2	85.6	73.3	75.0
September.....	68.7	75.1	98.5	71.7	72.8	94.8	90.9	76.6	86.6	76.6	79.1
October.....	67.1	73.3	104.6	75.5	73.9	95.8	92.8	77.6	87.8	77.6	79.4
November.....	67.3	72.3	104.0	76.4	74.1	96.0	93.0	77.4	88.4	77.0	79.2
December.....	67.6	71.9	103.7	78.0	72.8	96.0	93.0	77.7	88.5	77.4	79.2
1940:											
January.....	69.1	71.7	103.6	77.9	72.7	95.8	93.4	77.7	87.9	77.7	79.4
February.....	68.7	71.1	102.4	75.4	72.4	95.3	93.2	77.5	88.0	77.3	78.7
March.....	67.9	70.2	101.8	74.0	72.2	95.5	93.3	77.0	88.0	76.9	78.4
April.....	69.4	71.6	101.8	72.9	71.8	94.5	92.5	76.8	88.4	77.7	78.6
May.....	67.9	71.4	101.3	72.9	71.7	94.5	92.5	76.7	88.5	77.7	78.4

The price trend for specified years and months since 1926 is shown in table 3 for the following groups of commodities: Raw materials, semimanufactured articles, manufactured products, commodities other than farm products, and commodities other than farm products and foods. The list of commodities included under the classifications "Raw materials," "Semimanufactured articles," and "Manufactured products" was given in Serial No. R. 1069, Wholesale Prices, December and Year 1939.

TABLE 3.—Index Numbers of Wholesale Prices, by Special Groups of Commodities
[1926=100]

Year and month	Raw materials	Semi-manufactured articles	Manufactured products	All commodities other than farm products	All commodities other than farm products and foods	Year and month	Raw materials	Semi-manufactured articles	Manufactured products	All commodities other than farm products	All commodities other than farm products and foods
By years:						By months—Con.					
1926.....	100.0	100.0	100.0	100.0	100.0	1939—Con.					
1929.....	97.5	93.9	94.5	93.3	91.6	August.....	66.5	74.5	79.1	77.9	80.1
1932.....	55.1	59.3	70.3	68.3	70.2	September.....	72.6	81.8	81.9	81.3	82.1
1933.....	56.5	65.4	70.5	69.0	71.2	October.....	72.3	83.1	82.3	82.0	83.8
						November.....	72.4	82.1	82.0	81.6	84.0
1936.....	79.9	75.9	82.0	80.7	79.6	December.....	73.3	82.0	81.7	81.6	83.9
1937.....	84.8	85.3	87.2	86.2	85.3	1940:					
1938.....	72.0	75.4	82.2	80.6	81.7	January.....	73.8	81.7	81.7	81.5	83.9
1939.....	70.2	77.0	80.4	79.5	81.3	February.....	72.7	79.9	81.4	80.8	83.2
By months:						March.....	72.0	79.7	81.1	80.5	82.9
1939:						April.....	73.0	78.2	81.2	80.5	82.5
May.....	68.9	74.3	79.9	78.8	80.6	May.....	72.0	78.3	81.3	80.5	82.5
June.....	67.7	74.1	79.6	78.4	80.2						
July.....	67.8	74.4	79.2	78.1	80.2						

Weekly Fluctuations

Weekly fluctuations in the major commodity group classifications during April and May are shown by the index numbers in table 4.

TABLE 4.—Weekly Index Numbers of Wholesale Prices by Commodity Groups, April and May 1940

[1926=100]

Commodity group	May 25, 1940	May 18, 1940	May 11, 1940	May 4, 1940	Apr. 27, 1940	Apr. 20, 1940	Apr. 13, 1940	Apr. 6, 1940
All commodities.....	77.8	78.5	78.4	78.9	79.0	78.5	78.0	77.6
Farm products.....	66.8	68.2	69.2	71.3	71.6	69.6	68.0	67.0
Foods.....	70.7	71.7	71.6	72.5	72.8	71.9	70.8	69.7
Hides and leather products.....	101.4	102.4	102.2	102.5	102.5	102.5	102.1	101.6
Textile products.....	72.4	72.6	72.3	71.5	71.5	71.6	71.9	71.9
Fuel and lighting materials.....	72.4	72.3	72.4	72.3	72.2	72.3	72.5	72.5
Metals and metal products.....	94.7	94.7	94.5	95.0	94.9	95.3	95.4	95.4
Building materials.....	92.6	92.7	92.0	92.6	92.7	92.8	92.8	93.2
Chemicals and allied products.....	76.6	76.8	76.8	76.8	77.0	76.9	76.6	76.5
Housefurnishing goods.....	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.6
Miscellaneous.....	77.4	78.2	76.8	76.9	76.9	76.8	76.6	76.6
Raw materials.....	71.0	72.2	72.5	73.7	73.9	72.9	72.0	71.1
Semimanufactured articles.....	78.1	78.6	78.2	79.5	79.5	79.5	79.2	79.1
Manufactured products.....	81.3	81.8	81.5	81.6	81.7	81.5	81.2	80.9
All commodities other than farm products.....	80.2	80.8	80.4	80.5	80.6	80.5	80.3	80.0
All commodities other than farm products and foods.....	82.7	82.9	82.5	82.6	82.5	82.6	82.7	82.7

Recent Publications of Labor Interest

JUNE 1940

Agriculture

The agricultural industries. By Deane W. Malott and Boyce F. Martin. New York, McGraw-Hill Book Co., Inc., 1939. 483 pp., bibliography.

This volume is intended primarily to aid business executives in the agricultural industries. The industries included are those that are concerned not with the growing but with the processing of agricultural commodities. Not all these industries are included, however, as, for example, the processing of fruits and vegetables, in which some of the most serious problems, especially from the point of view of labor, have arisen. There is little direct discussion of labor problems or of the application and administration of laws such as the Fair Labor Standards Act.

Production and consumption of manufactured dairy products. By Edmund E. Vial. Washington, U. S. Department of Agriculture, 1940. 76 pp., charts. (Technical Bull. No. 722.)

Dairy products are described as the largest single source of agricultural income in the United States. Production figures are given for both farm and factory, going back in some instances to 1849. The study includes related estimates for consumption, exports, reexports, imports, cold-storage stocks, and certain other items.

Why farmers are poor: The agricultural crisis in the United States. By Anna Rochester. New York, International Publishers, 1940. 317 pp., illus.

There is emphasis on the interdependence of agriculture and industry and the need for cooperation between farmers and industrial workers. One of the 12 chapters is on hired farm labor.

Civil Service

Civil service: Our government as an employer. By Chester C. Carrothers. Boston, New York, etc., Ginn and Co., 1939. 92 pp., charts, illus. (North Central Association of Colleges and Secondary Schools, Unit studies in American problems.)

This pamphlet, intended primarily as a text for use in the eleventh and twelfth school grades, covers Federal, State, county, and municipal civil services.

Your Federal civil service. By James C. O'Brien and Philip P. Marenberg. New York and London, Funk & Wagnalls Co., 1940. xvi, 501 pp.

A book of information for persons desiring a position in the Federal civil service.

Cost and Standards of Living

An international survey of recent family living studies: III, Families of unemployed workers. (In International Labor Review, Geneva, June 1940, pp. 645-662.)

The previous articles in this series covered families whose heads were employed for all or a greater part of the periods surveyed. The first dealt with incomes and expenditures, and the second, with food expenditures and consumption habits. They were published in the International Labor Review for May 1939 and June 1939, respectively.

Family expenditures in selected cities, 1935-36: Volume V, Medical care. Washington, U. S. Bureau of Labor Statistics, 1940. 312 pp., charts. (Bull. No. 648.)

Money disbursements of wage earners and clerical workers in North Atlantic Region, 1934-36: Volume II, Eleven cities. By Faith M. Williams and Alice C. Hanson. Washington, U. S. Bureau of Labor Statistics, 1939. 522 pp., charts. (Bull. No. 637, Vol. II.)

Transportation and recreation expenditures of wage earners and clerical workers. Washington, U. S. Bureau of Labor Statistics, 1940. 18 pp., charts. (Serial No. R. 1089, reprint from March 1940 Monthly Labor Review.)

Economic and Social Problems

Conference Board studies in enterprise and social progress: Selected chapters in the story of the American enterprise system and its contribution to prosperity and public welfare. New York, National Industrial Conference Board, Inc., 1939. xvi, 327 pp., charts.

Part of the results of a concentration since September 1938 of the research and technical facilities of the National Industrial Conference Board on summarizing the information accumulated by the Board in its 23 years of activity. The work is designed to aid in preserving and improving what is described as the American "enterprise system" as animated by the profit method. The present volume includes reproductions of recent studies by the Board on population and the working force, including estimates of unemployment; the national income and its distribution; consumption and standards of living; and prices, wages, and profits.

Is plenty too much for the common people? By George R. Kirkpatrick. San Gabriel, Calif., Florence H. Kirkpatrick, 1939. 312 pp.

This book is the last work of the author, long prominent in labor and liberal circles, and once vice-presidential candidate of the Socialist Party.

Life, liberty, and the pursuit of bread. By Carlisle and Carol Shafer. New York, Columbia University Press, 1940. 207 pp., bibliography.

A series of letters in which the two authors discuss unemployment, low incomes, old age, fatherless homes, health, and social work.

Social work engineering: An outline of topics for survey, planning and appraisal. By June Purcell Guild and Arthur Alden Guild. New York and London, Harper & Bros., 1940. xii, 136 pp.

Outlines a procedure for making an inventory of social problems and activities, promoting social understanding, raising required budgets, and effectively combining public and private efforts.

A history of socialism. By Sally Graves. London, Hogarth Press, 1939. 308 pp., bibliography.

Described by the author as a rearrangement of more or less familiar facts for giving a background to the study of socialism. The longest of the 11 chapters is on "the international class war in Spain."

The taxation of small incomes—social, revenue, and administrative aspects. By Paul J. Strayer. New York, Ronald Press Co., 1939. 210 pp.

The writer discusses favorably a lowering of income-tax exemptions and advocates the reduction or removal of existing taxes levied indirectly on small incomes.

The Rockefeller Foundation—a review for 1939. By Raymond B. Fosdick. New York, Rockefeller Foundation, 1940. 72 pp., illus.

In addition to reviewing the work of the Foundation during the year in the different countries in the field of the social sciences, the effect of the European war on education and research is shown in a section entitled "Night over Europe."

Education and Training

Adult education councils. By Ruth Kotinsky. New York, American Association for Adult Education, 1940. 172 pp.

An examination and interpretation of the history of the councils from the viewpoint of their possible contributions in the field of adult education.

Education of the handicapped: Volume 1, History; Volume 2, Problems. Edited by Merle E. Frampton and Hugh Grant Rowell. New York, World Book Co. Volume 1, 1938, 260 pp.; Volume 2, 1940, 440 pp.

Volume 2 analyzes various problems of the blind, the partially seeing, the deaf, the hard of hearing, persons handicapped in speech, the crippled, cardiacs, the tubercular, those suffering from cerebral palsy, and the mentally handicapped. Part 3 of this volume reports on some special problems of the handicapped that have been solved in actual practice.

Training for the modern office. By Edwin M. Robinson. New York and London, McGraw-Hill Book Co., Inc., 1939. 543 pp., bibliography.

The author, formerly an office manager and now a professor of management, has trained hundreds of office employees and tells in this book what is done in business offices, also why and how it is done.

The worker's road to learning. By T. R. Adam. New York, American Association for Adult Education, 1940. 162 pp.

Chapters are devoted to the workers in the American educational system, the American labor movement and education, the claim of workers' education on the universities, Government and workers' education, unions as educators, and educational tools for workers.

Directory of opportunities for vocational training in New York City. New York, Vocational Service for Juniors, 1940. xviii, 98 pp.

The schools listed in this publication were included only after investigation by the Vocational Service for Juniors.

Employment and Unemployment

New techniques for getting jobs. Washington, U. S. Bureau of Labor Statistics, 1940. 10 pp. (Serial No. R. 1100, reprint from April 1940 Monthly Labor Review.)

The organization of employment in Japan. By Toru Ogishimi. (In International Labor Review, Geneva, February 1940, pp. 134-151.)

Outlines in brief the measures adopted in Japan to meet the problem of the shortage of labor, especially in the skilled trades.

Statistics of employment and incomes [in New Zealand], 1937-38. Wellington, Census and Statistics Department, 1939. 158 pp.

An appendix to the statistical reports for the year, containing income and occupational statistics.

Employment Office Activities

Elements of junior placement procedure: A handbook for junior counselors in public employment offices. Washington, U. S. National Youth Administration, [1939]. 137 pp.; mimeographed.

Junior placement: A survey of junior-placement offices in public employment centers and in public-school systems in the United States. By Jane H. Palmer. Washington, U. S. Children's Bureau, 1940. 134 pp. (Bureau publication No. 256.)

Touches upon the extent of junior-placement programs in operation in this country during all or a part of 1936 and studies in more detail the work accomplished by a selected number of junior-placement offices in 1937.

Health and Industrial Hygiene

Medical plans for low income groups. By Morris Fishbein, M. D. (In American Bar Association Journal, Chicago, February 1940, pp. 149, 150, 184.)

Description of the various hospitalization plans and medical-service bureaus for low-income groups throughout the country, which are controlled by the American Medical Association. The platform of the Association in regard to Federal aid is given.

Manual of public health nursing. Prepared by National Organization for Public Health Nursing. New York, Macmillan Co., 1939. 529 pp. 3d ed.

This manual is designed to serve as a guide to the public-health nurse. It covers administration and organization of public-health nursing, family nursing services, and other services to the family.

The course of disabling morbidity among industrial workers, 1921-38. (In Public Health Reports, U. S. Public Health Service, Washington, May 31, 1940, pp. 962-974; charts.)

This paper, dealing with time changes in the frequency of sickness and non-industrial injuries among members of industrial sick-benefit associations over an 18-year period, showed a downward trend, more marked among males than females, in all sickness rates, particularly those for the respiratory diseases, and an upward trend in nonindustrial injuries for both sexes.

Industrial health in war. London, Industrial Health Research Board, 1940. 36 pp. (Emergency report No. 1.)

Results of researches by the British Industrial Health Research Board on the effect of excessive hours of work, and of good lighting, heating, and ventilation, on the health and output of workers, are summarized in this report.

Methods for detection of toxic gases in industry: Carbon monoxide. London, Department of Scientific and Industrial Research, 1939. 9 pp., diagrams. (Leaflet No. 7.)

The report describes a comparatively simple test for the detection of small amounts of carbon monoxide in the atmosphere of workplaces.

Occupational poisoning in the viscose rayon industry. By Alice Hamilton, M. D. Washington, U. S. Department of Labor, Division of Labor Standards, 1940. 79 pp., bibliography. (Bull. No. 34.)

This study covers the occupational hazards in the departments of plants in the viscose rayon industry in which carbon disulphide and hydrogen sulphide are used. The study covered 9 large plants and 4 medium-sized and smaller plants located in 10 States. The processes in which these hazards exist are described and general plant problems such as heat and humidity and medical care are discussed. The symptoms of poisoning from carbon disulphide and hydrogen sulphide are described, and data are given on the maximum allowable concentrations of fumes in the air of workrooms. The appendix contains a study of cases of psychosis among viscose rayon workers.

Skin hazards in American industry. Washington, U. S. Public Health Service, 1939. 93 pp., bibliography, illus. (Public health Bull. No. 249.)

This bulletin is part 3 of a study the first 2 parts of which were issued as bulletins numbers 215 (1934) and 229 (1936), respectively.

The effects of working conditions upon the health of London central busmen. London, Ministry of Labor, 1939. 49 pp.

The investigation covered conditions of work of bus drivers and conductors in the congested central area of London, which were believed by the union members to be detrimental to their health and especially to contribute to an excess of gastric disorders. It was found there was evidence of some slight excess of gastric illness among both drivers and conductors as compared with London tramway workers and bus-maintenance workers, which it was considered might be due to two general factors, namely, irregularity of hours of work leading to irregularity of meal times, and the nervous strain of the work.

Proceedings (abstracted) of Second Annual Congress on Industrial Health, Chicago, January 1940. Chicago, American Medical Association, Council on Industrial Health, 1940. 28 pp. (Reprinted from various issues of American Medical Association Journal.)

The subjects covered at the meeting included vocational rehabilitation in relation to medical practice and workmen's compensation, industrial psychiatry and mental hygiene, nutrition, syphilis in industry, and industrial physical examinations.

Report of Director of Saranac Laboratory for Study of Tuberculosis for year ending September 30, 1939. Saranac Lake, N. Y., [1940?]. Various paging.

Reprints of scientific papers appended to the report deal with various aspects of the silicosis and tuberculosis problems in industry.

Housing

Building construction, 1921 to 1938. Washington, U. S. Bureau of Labor Statistics, 1940. 114 pp., charts. (Bull. No. 668).

Sixth annual report of New York City Housing Authority, 1939. New York, 1940. 20 pp.

Contains information on the negligible dwelling vacancy and collection losses during the year, and data on incomes of families housed in one of the projects (Red Hook Houses).

Housing. By A. E. Grauer. Ottawa, Canada, Royal Commission on Dominion-Provincial Relations, 1939. 78 pp., bibliography. [Research study No. 4.] Reviews housing in other countries and makes a case for State aid in Canada.

Swedish housing policy. By Al Johansson and Waldemar Svensson. [Stockholm], Royal Swedish Commission, New York World's Fair, 1939. 47 pp. (Reprinted from *Annals of American Academy of Political and Social Science*, Vol. 197, May 1938, pp. 160-170.)

Traces the effects of Sweden's social history on its housing policy and shows the results.

Where housing and welfare meet. Chicago, American Public Welfare Association and National Association of Housing Officials, Joint Committee on Housing and Welfare, 1940. 12 pp.

A statement of joint administrative responsibility of housing and welfare officers.

Industrial Accidents and Workmen's Compensation

Manual on industrial-injury statistics. By Max D. Kessoris. Washington, U. S. Bureau of Labor Statistics, 1940. 201 pp. (Bull. No. 667.)

Safety factors in construction and ventilation, Wawona vehicular tunnel, Yosemite National Park, Calif. By S. H. Ash. Washington, U. S. Bureau of Mines, 1940. 34 pp., diagrams, illus. (Technical paper 608.)

The report describes the construction of the tunnel and the safety measures used. There is a section on accident experience and costs.

Transactions of 28th National Safety Congress, Atlantic City, October 16-20, 1939. Chicago, National Safety Council, Inc., [1940?]. General and industrial sessions, 726 pp.; Street and highway traffic, commercial vehicle, transit, child education, and home safety sessions, 147 pp. 2 vols.

A quarter century of workmen's compensation in State of New York. By Frieda S. Miller. (In *Labor Information Bulletin*, U. S. Bureau of Labor Statistics, Washington, May 1940, pp. 8, 9.)

Workmen's compensation provisions for public school employees. Washington, National Education Association of the United States, May 1940. 42 pp.; mimeographed.

Industrial Relations

The National labor policy and how it works. By Joseph Rosenfarb. New York and London, Harper & Bros., 1940. 732 pp.

This book contains an exhaustive and fully documented analysis of the background, origin, meaning, and application of the National Labor Relations Act. It tells the story of management and labor relations that led to the enactment of the law, its application in practice, and administrative difficulties which have arisen in its day-to-day application by the National Labor Relations Board. It also contains an objective analysis of the various proposed amendments to the act.

Collective bargaining in the United States of America. By Florence Peterson. (In *International Labor Review*, Geneva, Switzerland, May 1940, pp. 479-505.)

Brief summary of extent of collective bargaining, provisions of union agreements and their legal enforcement, and methods of settling grievances under such agreements.

Written trade agreements in collective bargaining. Washington, U. S. National Labor Relations Board, Division of Economic Research, 1940. xiv, 359 pp. (Bull. No. 4.)

A section on agreements in particular industries covers the printing, clothing, pottery and glass, coal, railway, maritime, rubber, and steel industries, and machinists.

Methods of collaboration between the public authorities, workers' organizations, and employers' organizations. Geneva, International Labor Office, 1940. 346 pp.

Report prepared as a basis of discussion of the subject at the 1940 session of the International Labor Conference.

Second annual report of Newark Labor Relations Board, October 1, 1938–September 30, 1939. Newark, N. J., [1940?]. Various paging.

The Wagner Act. By John H. Mariano. New York, Hastings House, 1940. 229 pages.

In addition to an analysis of the National Labor Relations Act, this book deals with the problem of labor injunctions, the position of labor with regard to the judiciary, and with labor as a political party. The author hopes that the book will prove valuable "in emphasizing that common purpose and identity of interest between the national purposes of the American State and those making up the program of the laboring classes."

The right to picket in light of anti-injunction statutes and the new emphasis on the guarantee of freedom of speech. By Richard H. Peterson. (In California Law Review, Berkeley, March 1940, pp. 353–369.)

International Labor Conditions

Sowing justice, or the romance of the International Labor Office. By Stephen Lawford. London, Nicholson and Watson, 1939. 150 pp.

The major part of the book is devoted to the growth and organization of the I. L. O. in recent years, but the author also traces the growth of labor legislation since the beginning of the industrial revolution.

The Second Labor Conference of American States members of International Labor Organization. (In International Labor Review, Geneva, March 1940, pp. 225–268; also reprinted.)

A brief account of this conference, held at Havana, Cuba, November 21 to December 2, 1939, was given in the January 1940 Monthly Labor Review (p. 59).

Labor Legislation

Federal legislation, etc., affecting railroad employees, January 1940. [Cleveland?], Brotherhood of Locomotive Firemen and Enginemen, 1940. 247 pp.

Labor legislation [in Canada]. By A. E. Grauer. Ottawa, Royal Commission on Dominion-Provincial Relations, 1939. 292 pp. [Research Study No. 2.]

Covers legislation concerning minimum age for employment, hours of labor, wage regulation, trade-unions, factory inspection, arbitration and conciliation, employment services, apprenticeship, technical education, and workmen's compensation. The author uses International Labor Office conventions as standards for the appraisal of Canadian labor legislation and compares Canadian performance with that in other countries.

Labor Organizations

United Electrical, Radio, and Machine Workers Union. By James B. Carey. (In Labor Information Bulletin, U. S. Bureau of Labor Statistics, Washington, May 1940, pp. 1–4; illus.)

Hotel and Restaurant Workers' International Union. By Edward Flore. (In Labor Information Bulletin, U. S. Bureau of Labor Statistics, Washington, April 1940, pp. 1–4; chart.)

As steel goes—unionism in a basic industry. By Robert R. R. Brooks. New Haven, Conn., Yale University Press, 1940. 275 pp., illus.

A history of the rise of steel unionism from early times to the present, with special reference to the current problems facing the union.

Independent labor organizations and the National Labor Relations Act. By Frank T. Bow. New York, Prentice-Hall, Inc., 1940. 120 pp.

Incorporation, registration, and listing of labor unions. By Committee on Labor Law of National Lawyers Guild. (In *National Lawyers Guild Quarterly*, Washington, January 1940, pp. 267-275.)

The article gives a brief historical résumé followed by summaries of legislation and court decisions on the subject in various States, and an analysis of arguments for and against incorporation of labor unions.

The trade-union movement in South Africa during the years following [its] inception. Johannesburg, South African Trades and Labor Council, National Joint Committee, 1939. 32 pp. (In English and Dutch.)

Migration

The Atlantic migration, 1607-1860: A history of the continuing settlement of the United States. By Marcus Lee Hansen. Cambridge, Harvard University Press, 1940. xvii, 391 pp., bibliography, illus.

The author deals mainly with the homelands of the immigrants and describes the old-world conditions giving rise to migration, such as changes in agriculture and land holdings, industrial changes, natural disasters, political oppression, religious discrimination, and the methods used by agents of employers and shipping concerns to stimulate migration. The volume is mainly but not wholly concerned with migration to the United States.

Methods of halting unnecessary rural migration. Testimony of W. W. Alexander, Farm Security Administrator, before Senate Civil Liberties Committee, May 23, 1940. Washington, U. S. Department of Agriculture, 1940. 20 pp.; mimeographed.

Occupations and Occupational Guidance

Dictionary of occupational titles: Part I, Definitions of titles; Part II, Group arrangement of occupational titles and codes; Part III, Conversion tables. Washington, U. S. Employment Service, June 1939. 3 vols.

The character and scope of this dictionary were indicated in a brief résumé published in the June 1940 *Monthly Labor Review* (p. 1379).

Career clinic—the answer to your job problem. By Esther Eberstadt Brooke. New York, Farrar & Rinehart, Inc., 1940. 290 pp.

The purpose of her book, the author states, is not only to show the reader how to be himself but to reveal his potentialities, to give him a mental sense of direction, and to show him how to keep on the crest when once he has attained it—in brief, to teach him how to cash in on his individuality.

Picture fact books. Group 1—Air workers, Movie workers, News workers, Nurses at work, Textile workers. Prepared by Picture Fact Associates. New York and London, Harper & Bros., 1939. 5 volumes; various paging.

Each of these profusely illustrated books gives a brief history of the industry covered, lists the various occupations it includes, and gives various other important data of vocational interest.

Handbook of aeronautical vocations. By Walter Van Haitsma. Zeeland, Mich., Zeeland Record Co., 1939. 48 pp.

Discusses aviation as a career, presents a chart of aeronautical vocations, and gives information bearing upon choice of schools, getting a job, and attaining success in the field of work covered. There is also a brief bibliography.

Nursing as a profession. By Esther Lucile Brown. New York, Russell Sage Foundation, 1940. 157 pp. 2d ed.

Gives information on preparation for nursing; national organizations of nurses and for the education of nurses; the demand for and supply of nurses; and distribution, salaries, and present status of the nursing profession.

Changes in the occupational distribution of the population [of India]. By B. G. Ghate. Delhi, 1940. 46 pp. (Studies in Indian economics issued by Office of Economic Adviser to Government of India, second series, Aspects of Indian social economics, No. 1.)

Some of the tables in the report include figures for 1936 and 1937, but the latest date for most of the statistics presented is 1931.

Prices

Retail prices in certain countries in October 1939. (In *International Labor Review*, Geneva, April 1940, pp. 428-433; also reprinted.)

The countries and towns dealt with in this study are in general the same as those covered by the annual survey of wages and hours of labor conducted by the International Labor Office (see reference under Wages and Hours of Labor in this section).

Banco de México: Decimaoctava asamblea general ordinaria de accionistas. México, D. F., Banco de México, S. A., 1940. 81 pp., charts.

This report of the eighteenth regular general meeting of the shareholders of the Bank of Mexico includes index numbers of wholesale prices in Mexico, and of the cost of food (based on 16 articles) in the city of Mexico, by months, from January 1936 through 1939.

Relief Measures and Statistics

Public assistance: Volume I, American principles and policies. By Edith Abbott. Chicago, University of Chicago Press, 1940. 894 pp.

This work is designed primarily for the use of social workers and as a text in social service schools. It is divided into five parts, each of which is prefaced with a review of laws and administration, illustrated by specific cases, and accompanied by laws, official reports, judicial opinions, and State papers. The subjects dealt with are: The principle of public responsibility; the old poor law in the twentieth century; local responsibility and medical care; State grants-in-aid for public assistance; and Federal aid and emergency relief. Work relief and new forms of public aid that have developed since the Social Security Act became effective will be treated in the second volume, to be issued shortly.

The rent cost for relief families. Washington, United States Conference of Mayors, 1940. 15 pp. (Report No. 187.)

Results of a canvass covering 30 cities showing the policy adopted with regard to payment of rents for relief families. Twenty-five cities had an established policy providing for the handling of shelter in granting general relief.

Unemployment and the unemployed. By H. W. Singer. London, P. S. King & Son, Ltd., 1940. 152 pp.

The object of this book is to review British experience in dealing with unemployment from 1920 to 1939, to bring out the issues involved, and to suggest measures for dealing with the problem in the future.

Memoria de la Junta Departamental de Lima Pro-Desocupados, 1937-1938. Lima, Junta Departamental de Lima Pro-Desocupados, 1939. li, 106 pp., plans, illus.

An account of the activities of the unemployment-relief board of Lima in connection with work-relief projects, aid to working women, lunches for school children, etc., together with the text of the national legislation creating unemployment-relief boards in Peru.

Social Security

Fourth annual report of Social Security Board, fiscal year ended June 30, 1939, with supplementary data, July 1-October 31, 1939. Washington, 1940. 309 pp., charts.

The report covers operations under the provisions of the Social Security Act concerning old-age insurance, unemployment compensation, public assistance, and welfare and health services, with information on administration and other matters.

Tercera memoria de la Caja Nacional de Seguro Social correspondiente al año 1939 [Peru]. Lima, Caja Nacional de Seguro Social, 1940. Various paging.

Third annual report of Peruvian National Social Insurance Fund.

National Health Insurance Fund accounts for year ended December 31, 1938. London, Exchequer and Audit Department, 1940. 30 pp.

Covers the financial operations of the national health insurance funds in England, Scotland, and Wales for the year 1938.

Savings bank life insurance. New York, American Institute of Banking, New York Chapter, 1939. 256 pp.

Transcripts of 12 lectures given under the auspices of the New York Chapter of the American Institute of Banking during November 1938, including the questions and answers that followed each lecture. Each of the speakers is an authority in his field, and the information presented in this volume constitutes a simple yet comprehensive treatment of this timely subject.

Savings-bank life insurance in Massachusetts and New York, 1939. By Grace F. Felker. Washington, U. S. Bureau of Labor Statistics, 1940. 10 pp. (Serial No. R. 1099, reprint from April 1940 Monthly Labor Review.)

Employment security in Ohio, 1936-1939. Columbus, Bureau of Unemployment Compensation, 1940. 73 pp., charts.

A report of the activities of the Ohio Bureau of Unemployment Compensation, which describes the organization and functions of the Bureau, gives an analysis of activities, and discusses the problems met in the administration of the State unemployment-compensation law.

Technological Changes

Industrial research and changing technology. By George Perazich and Philip M. Field. Washington, U. S. Work Projects Administration, 1940. xii, 81 pp., charts, illus. (National Research Project, Studies in equipment changes and industrial techniques, Report No. M-4.)

The number of persons engaged in industrial research more than quadrupled between 1921 and 1938. The number in 1938 was about 50,000. Half of these were attached to 45 large companies and the other half were employed by more than 1,700 firms. The main development in this field has been in the relatively new mass-production industries. Industrial research has given employment to an increasing number of specially trained persons, but the number trained by the schools has been much greater. The extension of Government research, particularly in problems affecting small-scale and medium-size producers who cannot afford adequate research facilities, is suggested as a source of employment for trained personnel and as a means of furnishing needed information to enterprises not otherwise able to obtain it.

Trade-union policy and technological change. By Harry Ober. Washington, U. S. Work Projects Administration, 1940. 129 pp. (National Research Project, Studies of effects of industrial change on labor markets, Report No. L-8.)

The report surveys the methods employed by trade-unions in their attempts to mitigate the dislocating effects on employment of changes in industrial techniques. Chapters are devoted to the minimizing of job displacements, maintenance of earnings, reduction of hours of work, security of job tenure, and union interest in managerial problems.

Unemployment and technological change. By Corrington Gill. Washington, U. S. Work Projects Administration, 1940. 21 pp., charts. (National Research Project report No. G-7.)

Mineral technology and output per man studies: Rock drilling. By C. E. Nighman and O. E. Kiessling. Washington, U. S. Work Projects Administration, 1940. xiii, 158 pp., illus. (National Research Project, Mineral technology and output per man studies, Report No. E-11.)

The volume describes techniques such as the hand methods of drilling underground at the rate of about 4 feet per driller-shift; the introduction of the piston drill about 1910, increasing the speed to about 20 feet per man-shift; and the later hammer drill which made possible a speed of at least 80 feet per man-shift. Such changes were accompanied by important changes in job requirements and a decline in the importance of individual experience and skill. Future techniques and amount of employment will be affected by the depletion of resources and the necessity for working lower-grade deposits, and the drilling and breaking of greater tonnages in order to obtain a given amount of commercially useful products.

Wages and Hours of Labor

Wages, hours, and working conditions in union bakeries, June 1, 1939. Washington, U. S. Bureau of Labor Statistics, 1940. 39 pp., chart. (Bull. No. 673.)

Annual earnings in knit-goods industries (other than hosiery), 1937. By H. E. Riley, E. B. Morris, Dorothy S. Smith. Washington, U. S. Bureau of Labor Statistics, 1940. 9 pp. (Serial No. R. 1074, reprint from February 1940 Monthly Labor Review.)

Newspaper minimum wage scales, hours, and working conditions of subordinate unions of International Printing Pressmen and Assistants' Union of North America, June 1, 1940. Pressmen's Home, Tenn., International Printing Pressmen and Assistants' Union, 1940. 52 pp.

Silverware, solid and plated: A survey of the various types of silverware, the organization of the industry, and the trade in silverware, with special reference to factors essential to tariff consideration. Washington, U. S. Tariff Commission, 1940. 141 pp., bibliography, illus. (Report No. 139, second series.)

Data on wages in the silverware industry in the United States, Canada, Denmark, England, and Germany, are included in the survey.

Wages and normal hours of work of adult males in certain occupations in various countries in October 1939. (In International Labor Review, Geneva, April 1940, pp. 404-427; also reprinted.)

The statistics in this article cover 73 towns in 27 countries, and are based on information compiled by the competent statistical services in the various countries, like the previous similar inquiries on wages and hours of labor conducted by the International Labor Office.

Some references to publications on payment of salaries and wages (basic information sources). Compiled by Ruth C. Leslie. Washington, U. S. Bureau of Foreign and Domestic Commerce, Business Information Service, March 1940. 12 pp.; mimeographed.

The references cover wage-payment plans and statistics of salaries and wages.

Wage setting based on job analysis and evaluation. By C. Canby Balderston. New York, Industrial Relations Counselors, Inc., 1940. 59 pp., charts. (Industrial relations monograph No. 4.)

Systematic wage setting is viewed as the starting point of good industrial relations policy. The volume reviews the various methods of job analysis and appraises the techniques used. It is intended as a practical aid to industrial relations executives, union officials, and others who deal with problems of wage setting.

Wartime Labor Conditions and Control Measures

Problems and policies in industrial relations in a war economy—a selected, annotated bibliography. Compiled by Helen Baker. Princeton, N. J., Princeton University, Industrial Relations Section, May 1940. 30 pp.

The references cover material for the United States and certain foreign countries, particularly Great Britain.

Social legislation in wartime: Requisitioning of labor. (In International Labor Review, Geneva, June 1940, pp. 582-608.)

This article deals with measures adopted for provision of labor required for national defense and other essential needs, if such labor cannot be obtained by the ordinary methods, in Finland, France, Germany, Hungary, Japan, Netherlands, Poland, Sweden, and Switzerland.

The labor cost of the World War to Great Britain, 1914-1922—a statistical analysis.

By N. B. Dearle. New Haven, Yale University Press, 1940. 260 pp.

The conclusion reached is that the last war cost Britain the equivalent of three and one-half million men for the period from 1914 to 1922.

Youth Problems

Youth—millions too many? A search for youth's place in America. By Bruce L. Melvin. New York, Association Press, 1940. 220 pp., illus.

The writer states that the clamor of youth is on the increase, and that their attitude is such that they could readily be influenced by demagogic leadership. For some years young people have thought that conditions would be remedied, but, according to the preface to this book, they no longer believe that their inability to secure employment is a temporary episode.

The problem of unemployed youth: What can the A. A. U. W. [American Association of University Women] do about it? By Dorothy Jackson. Washington, American Association of University Women, 1939. 23 pp.; mimeographed.

Includes a selected bibliography and a list of agencies having youth programs.

Youth and employment opportunities. By Elna N. Smith. Washington, American Association of University Women, 1939. 15 pp.; mimeographed.

The basic issues of the problem discussed in this report are the pressure of farm young people on the land; the pressure of rural-nonfarm young people for opportunities; and the pressure for employment in urban centers.

General Reports

Labor problems in America. Edited by Emanuel Stein and Jerome Davis. New York, Farrar & Rinehart, Inc., 1940. 909 pp.

In addition to a history of the American labor movement, this textbook deals with such subjects as unemployment, industrial accidents, industrial disputes, child labor, personnel management, and methods of wage payment. There is also a brief account of the labor movements in France, pre-Nazi Germany, Great Britain, and the Soviet Union.

Report of the [Canadian] Royal Commission on Dominion-Provincial Relations: Book 1, Canada, 1867-1939; Book II, Recommendations; Book III, Documentation. Appendix 1, Dominion of Canada and Canadian national railways and provincial governments comparative statistics of public finance, 1913, 1921, 1925 to 1939; Appendix 2, British North America at confederation; Appendix 3, The economic background of Dominion-Provincial relations; Appendix 4, National income; Appendix 5, Labor legislation and social services in Province of Quebec; Appendix 6, Public assistance and social insurance; Appendix 7, Difficulties of divided jurisdiction; Appendix 8, Legislative expedients and devices adopted by the Dominion and the Provinces. Ottawa, 1939 and 1940. Eleven volumes; various paging.

In addition to the volumes listed above, the Commission has issued a number of research reports. The subjects covered by these special reports include housing, labor legislation, and public health.

Anuario general de estadística, 1938. Bogotá, Colombia, Dirección Nacional de Estadística, 1939. Various paging.

Data for Colombia are given through 1938 on number and wages of workers employed by railways; number employed in air transport, by occupation; number employed in the principal industries, by nationality and sex; public lands allotted to colonists; index of cost of living in Bogotá; wages, with and without board, of adult agricultural workers, by locality and sex; industrial accidents, by industry and cause; workmen's compensation and other social insurance, by industry and type of benefit; labor organizations; and cooperatives.

Sentido y realización de una política social. Bogotá, Colombia, Departamento Nacional del Trabajo, 1939. 259 pp.

Annual report of the Chief of the National Labor Bureau of Colombia, dealing with labor supply and demand, industrial accidents and workmen's compensation, labor organizations, agricultural workers' housing, labor disputes, collective agreements, court decisions, and other matters, with text of new labor legislation through July 5, 1939.